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DEFENCE OF DR. GOULD

BY THE

SCIENTIFIC COUNCIL

OF THE

DUDLEY OBSERVATORY.



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DEFENCE OF DR. GOULD,

BY THE SCIENTIFIC COUNCIL.

TO THE DONORS AND FRIENDS OF THE DUDLEY
OBSERVATORY.

FELLOW CITIZENS :

The undersigned who address you were named as the Scientific Council of the Dudley Observatory, at a meeting of the friends of the Observatory, in which certain members of the Trustees took part in September, 1855. By the use of our name, and under the pledge of our management of the scientific concerns of the Observatory, the large donation of Mrs. Dudley, as well as many smaller ones, were procured. This position gives us a right, therefore, to address you, and we now wish a hearing in regard to the charges preferred by the President of the Trustees of the Observatory, Mr. Olcott, against the Director, Dr. B. A. Gould, Jr.

1. *Ostensible Reasons.* — The ostensible reasons assigned by Mr. Olcott and the Trustees voting with him, for their late astonishing course of procedure in regard to the affairs of the Observatory, are the

alleged incompetency, dishonesty, peculiarity of temper, and the unfitness in other respects of Dr. Gould for the position in which he was placed. Being informed by the Trustees that difficulties existed between them and Dr. Gould, we hastened to this city in accordance with a previous arrangement, although at a time when it was exceedingly inconvenient for us to leave home, and pressing duties relative to our respective offices demanded our attention. We came with the determination rigorously to examine into the state of affairs, to ascertain how much of error might be due to each party, and to suggest rules for the government of both in their subsequent intercourse. We came not as partizans to uphold Dr. Gould in what we might consider the wrong, but as men having a solemn duty to discharge towards the community, anxious to prevent the dissipation of a noble bequest, anxious to avert the disgrace to the city of Albany, to ourselves, to our friends in the Board, which would result from an open and uncompromising rupture between our associate and the Board of Trustees. We therefore respectfully requested of the Board a statement of the difficulties of which they complained. We also made a similar request of Dr. Gould.

By the Trustees, however, we were accused of an unwarrantable assumption of power. They refused to furnish us with any facts or to hold any intercourse with us unless we would sanction the immediate removal of Dr. Gould. They gave him no opportunity to defend himself. They refused to allow the case to be investigated, and their President prematurely published charges against Dr. Gould, so

vitaly affecting his character that, unless substantiated by the clearest evidence, they must be considered as the result of a malicious determination to destroy, if possible, his reputation as a man of science and a man of honor, and to do him a wilful and egregious wrong.

After the publication of this astonishing document we again requested the President of the Trustees to furnish us the evidence on which these assertions were founded. This he refused to do, and, in answer to our respectful and repeated solicitations, they consummated their acts of arbitrary power by assuming to dismiss us as the Scientific Council of the Dudley Observatory. After this last act we can exert no influence on the Trustees, but we now feel that we owe it as a duty to Dr. Gould and to ourselves, his associates, to defend him against the unjust charges which have been made against him. We have made the examination necessary to this, and have come deliberately to the conclusion — that the Trustees, instead of being actuated by a desire to advance astronomical science, have sought merely the advancement of their own interests and the gratification of personal feeling. They have no idea of an Observatory such as their high-sounding words to us and to the public would imply, and they have sought by constant and harassing interference to impede the results of the generous devotion of Dr. Gould, and, though they have made no provision for his support, they now accuse him of tardiness for not having done more than almost any individual in a similar position has ever done, under the most favorable circumstances. We shall

discuss the several charges made against Dr. Gould, and leave the inferences to the judgment of candid men, who will decide whether the Trustees or the Director are most worthy of their office.

Our examination has so convinced us of the grievous injustice done to our colleague, that we have entitled our statement a "defence." The great difficulty of the case is that the charges are so boldly made that the world can only be convinced by the most searching discussion that there is no foundation whatever for them, and that this discussion must occupy considerable space. On the other hand we have the encouragement that with all the labor and pains taken by the President of the Board, he has not succeeded in making a single point of consequence, against Dr. Gould. It is, indeed, unusual for a man to come out of such an ordeal unscathed, as Dr. Gould has, from the examination which we have instituted upon the studied and elaborate paper of Mr. Olcott.

It is not necessary to follow Mr. Olcott through his history of the Observatory, as it consists of statements which, though combined to suit his particular views, and therefore not strictly accurate, contain no charges against Dr. Gould.

Still it may be well to follow his extraordinary communication, adopted by the Board, in the order of his charges, sneers and inuendoes, and to consider these one by one,—with the exception of sundry loose statements and inaccurate assertions, of which we will speak in their aggregate.

And we will begin with these.

2. *Loose Statements.* — It seems hardly worth while to notice the numerous small inaccuracies of Mr. Olcott's statement, except as tending to show the looseness and disregard of precision with which it has been made up.

For example — the liberal guaranty of Hon. J. V. L. Pruyn, which induced the Superintendent of the Coast Survey to make his offer in 1855, is omitted. Dr. Gould was *urged* by the Trustees to go to Europe, instead of offering, as Mr. Olcott states. Dr. Gould was *not* authorized to purchase barometers and thermometers, and the mention of such trivial instruments in connection with the great meridian-circle shows a lamentable want of the discrimination due to candor or knowledge. Dr. Gould's expenses in Europe were only *in part* borne by the Observatory; they amounted to over \$1,500, of which he generously declined the reimbursement of more than half. Dr. Gould stated at the meeting at Mrs. Dudley's, (the donors and other "friends of the enterprise" met in those days at Mrs. Dudley's to hear of progress and to give advice,) that he had concluded to *award* the construction of the heliometer to Mr. Spencer, and the final arrangements with Mr. Spencer were made by Mr. Olcott himself, after consulting Mrs. Dudley, and presenting for her selection estimates of instruments of several different sizes and prices. With much liberality and good judgment she selected the largest.

Dr. Gould not only purchased no barometers or thermometers abroad, but he placed none in charge of Mr. Gavit. Mr. Gavit, who subsequently made these small purchases, having found it impracticable to obtain

authority to carry the instrument in the original packages, unopened, across England, was obliged to entrust them to the express, and some of them were broken. We cannot hold Dr. Gould responsible for any part of this, nor for the non-recovery of the insurance, which business clearly belongs to the financial agent of the Trustees, to whom Dr. Gould more than once addressed a reminder on this very subject. We must exonerate Mr. Gavit from blame in the matter of transportation; and the whole set of instruments having, as we are informed, cost but \$150, and only a part of them having been injured, the matter is not probably one of much consequence. Of whatever consequence, Dr. Gould had no part in it.

After speaking of Dr. Gould's removal to Albany, Mr. Olcott refers to an application from him "in February last, for a new dome." The letters of Dr. Gould (which were in January, not February) show that no such application was made — Dr. Gould merely inclosing a report of the architect, with his own remarks, submitting the question for decision "whether another dome ought to be provided at the present time," and showing how the existing structure can be rendered safe for present use. It will be recollected that this dome was constructed long before Dr. Gould had any connection whatever with the Dudley Observatory. A new dome instead of costing "several thousand dollars," as asserted by Mr. Olcott, was estimated by the architect at the price of \$1,800.

Neither the estimates of Dr. Gould for mounting the instruments, nor his demands upon the Trustees, exceeded \$3,800, as alleged by Mr. Olcott. The estimates,

subsequent to January 21, were requested by the Trustees, and, as will be subsequently shown, did not reach an amount in any way comparable with this sum. The details of them we give in the proper place.

There are other small matters which in passing it may be well to notice, such as these:—

That the pledge of Prof. Bache, to provide a transit for time from the Coast Survey instruments, is one which has long been redeemed; that the instrument was mounted in April, and has been in use on every clear night since that time; that no observer for the heliometer is yet needed, inasmuch as the instrument has not been finished, and of course has furnished no observations to “belong jointly to the Observatory and Coast Survey, and to be published by either.”

There are many allegations which, as intended to show that Dr. Gould’s recommendations were wanting in good judgment, may deserve a passing notice:—

That Mr. Spencer’s voyage to Europe resulted in no great addition to the stock of his previous information—or, in other words, that his careful study of the great heliometer at Oxford, and of the instrumental workshops and optical institutions of France and Germany added nothing to his previous information—is a proposition which only needs to be clearly stated, to show its necessary fallaciousness. That the rejected stone from Lockport was one which might properly have been accepted, is a statement simply untrue, and one which will be refuted by every astronomer who will examine the block. That the chronographs and clocks were ordered before they were wanted, and cost too much; an assertion which contrasts curiously with Mr. Olcott’s

insinuation of blame to Dr. Gould, because one of them "by some unaccountable delay has not yet arrived." The prices paid we consider extremely low for the apparatus received. If it be true, as it would be natural to anticipate, that considerable sums have been lost in experiment, the generous zeal of Mr. Farmer, the gifted mechanic, has certainly prevented such loss from falling upon the Observatory.

There are numerous other similar allegations which will be considered in their regular order.

3. *Precision and Exactness.*—In the midst of the praise awarded to Dr. Gould for his promptness and energy, and the rejoicing over the ceremonies of the inauguration in August, 1856, is the unmerited fling at his "precision and transcendental exactness." Separated from their rhetorical show, the two paragraphs which we are now noticing prove that Mr. Olcott did not at all understand what was meant by the terms "original" and "in advance of other institutions," as applied to an astronomical observatory, or he would hardly venture to blame any amount of precision or exactness,—the only qualities which distinguish the great practical astronomer from an ordinary observer. The Scientific Council certainly shared in the delusions of these times, if delusions they were. The representations of Mr. Olcott and Dr. Armsby, and of other co-trustees, so often expressed, had induced them to believe that the Trustees desired to have an observatory deserving to be considered a national institution, and that funds would not be wanting for such a purpose. They were called upon to take part in no ordinary or local insti-

tution, but in a great National Observatory, and it was to such an establishment that they promised to devote their time and labors as a Directing Council. It was to such an observatory that Mrs. Dudley, on the pledge of their names, and the assurance that they would undertake its scientific direction, made her great donation. If the contributions have fallen short of the expectations of the Trustees, or by "wasteful expenditure" have been diminished below the point where the expectations then entertained can be realized, we submit that neither Dr. Gould's "precision" nor "transcendental exactness" is responsible. For ourselves, we declare that we never would have taken the post of Councillors of an observatory, of which we had not supposed the Trustees imbued in the fullest and most complete sense with the idea that originality, precision and progress were to be the watchwords of the Observatory.

That the quarries of Lockport could not furnish the requisite supply of stone for the piers of the meridian circle is a gratuitous assertion of Mr. Olcott; but that the stone, sent from thence by the person with whom the Executive Committee made the contract, was unfit for its purpose, is a fact which we have verified by a close inspection. To mount this splendid meridian circle upon a stone liable to any defect whatever, would be to expose the results to error and to the suspicion of error,—to place a costly structure upon an inadequate foundation. Better not mount the instrument at all. It was merely squandering funds to purchase it at all, if it was to be mounted thus. Its precision and exactness would be thrown away, if a defective stone supported it.

The question of the payment for this condemned stone is again one of those belonging not to Dr. Gould but to the Trustees, and especially to the Executive Committee. Dr. Gould's expressions of regret (which we have seen in his correspondence) at the cost, are adopted by the Council.

It will hardly be considered as just, in relating the history of the Observatory, to adopt the rhetorical flourish of Mr. Olcott, in regard to giving "a place on the earth to our [the Trustees'] castle in the air." General Van Rensselaer had given the ground for an Observatory; Mrs. Dudley had contributed some \$28,000 to the institution; and by various contributions a building had been erected, although without instruments or the necessary equipments of an astronomical observatory. It was in this condition of things, and when hopes of success in organizing the institution had almost been abandoned, that the arrangement in regard to the Scientific Council was entered upon. On the faith of this arrangement with us, by which we became the Directing Council of the Observatory, Mrs. Dudley made her great donation of \$50,000, and a new era was inaugurated with the imposing ceremonies of August, 1856. This, with the frequent assurances of the Trustees, left no doubt in our minds that the scientific concerns of the Observatory were under our control and direction. We looked to a permanent connection, based upon it, with the rising institution.

4. *Injudicious Recommendations.*

(a.) *The Ingenious Crane.*—The apparatus for placing the great piers by which the meridian-circle is supported, we consider as being at once ingenious, eco-

nomical and well contrived. The success with which it has accomplished its work is the best demonstration of its excellence. Stones weighing over seven tons each were to be brought into place with a degree of accuracy with which an ordinary mason could not lay even a brick or corner stone. To talk of placing them properly without some such apparatus, is to utter ridiculous absurdity; and this case well illustrates the many practical difficulties with which Dr. Gould has had to contend in his successful efforts to grapple with the difficult problem of mounting an instrument of such unexampled magnitude and delicacy. The only comparable operation is the well-known one of the great Transit-circle of the Greenwich Observatory. It may be that masons offered to place the stones in position for one-quarter the cost of the machine. In so doing, they showed an ignorance of the difficulty of the problem; an ignorance perfectly excusable in them, although its adoption is not excusable in Mr. Olcott.

(b.) *The Dome.* — The dome of the Observatory was built by direction of the Trustees in 1852, long before Dr. Gould or any of the Council had any connection with the Dudley Observatory. Not only is Dr. Gould not responsible for its inadequacies and imperfections, but his efforts to remedy them have been unremitting. It unfortunately resembles that of "the great Imperial Observatory of Russia" only in some characteristics of *external* form. The suggestion that Mr. Hodgins — the skilful architect to whose ingenuity the happy idea of using flexible iron shutters is due — would make designs irrespective of what an architect was entitled to assume as the strength of such a structure, carries its own refu-

tation with it. Not only did the dome prove incapable of supporting the shutters, but even of properly supporting its own weight, so soon as the tinning which covered the meridian aperture was removed.

(c.) *The Wings of the Building.*—The machinery for opening and closing the shutters of the wings is, in our judgement, an elegant and important contribution to observatory-architecture. It is highly successful, and the admiration of all who examine it. If Dr. Gould aimed, as Mr. Olcott sneeringly taunts him with doing, “at something beyond the magnificence of the royal institutions of Europe,” he would only have followed the directions uniformly given and the requests continually urged. But the taunt is undeserved and harmless. What the price of the machinery may have been we do not know, nor does he. We only know that the contracts were made by Mr. Olcott or Dr. Armsby on the one hand, and fulfilled by a Trustee of the Observatory on the other; that the plans were judicious, elegant, ingenious and highly commendable. The closing remark, in which reference is again made to the dome, is not only ungenerous but highly improper; for Mr. Olcott must well remember the encouragements which were held out to the Scientific Council, that the new equatorial, nearly completed for Hamilton College, would in all probability be used at the Dudley Observatory until its hire should supply the means for the purchase of a transit-instrument to use with it at the institution for which it was constructed. There are some points in this connection which may, we trust, be fully made public on some future occasion.

(d.) *Chronographs and Clocks.*—To this topic we have

already alluded under the head of "Loose Statements," and we shall consider it again in detail.

(e.) *The Dwelling-House.*—At the instance of Messrs. Armsby and Olcott, Dr. Gould undertook to have the plans for a dwelling drawn under his supervision at Boston. These plans contemplated an unpretending wooden building, in a less prominent and more appropriate position than the present one. Most of the essential characteristics were modified by Messrs. Olcott and Armsby, who also selected a new site, occupying a position which neither Dr. Gould nor ourselves would have advised. Dr. Gould informs us that the new plan was not "submitted to him, and discussed room by room," as Mr. Olcott asserts. Had Dr. Gould, under the circumstances, complained of these changes, it would not have been unnatural; but we find no evidence that he has done so. On the other hand—though the present dwelling does not possess the advantages of his plan, has probably cost at least twice what it should have done, and is by no means a specimen of thorough workmanship—he has not busied himself with any considerations of personal comfort, but has struggled to maintain and promote the welfare of the Observatory through difficulties and obstacles almost appalling, concentrating his attention upon this one great object alone.

(f.) *The ready Concurrence in all his Schemes.*—The earnestness which Mr. Olcott manifests, in his statement, to exonerate everybody excepting Dr. Gould, is almost amusing. In this connection we beg to quote from Dr. Gould's report to us of December, 1857.

(This report was made in the December previous to Dr. Gould's removal to Albany.)

From Dr. Gould's Report to the Scientific Council, 1857, Dec. 21.

"In alluding to these difficulties, I desire only to cite them as illustrative of the state of affairs and constant embarrassment since my first connection with the Observatory. With every expression of confidence and regard on the part of the Executive Committee, and a full reliance on my own part in the excellence of their intentions, I have found it throughout impossible to prevent continual interference, leading alike to very large and entirely unnecessary outlay, and to results at variance with my taste and judgment. My complaints have always been met in one and the same way, viz.: with assurances of rectitude of motive, promises of future non-interference, and appeals to my forbearance, as requisite alike for the protection of the innocent colleague [Mr. Olcott], and for the welfare of the institution. From you and my most intimate friends I have not for the past year concealed this state of affairs; from the world I have done so, preferring to endure personal annoyance and incur danger of undeserved censure, rather than to take the only step which could protect myself, since this would endanger the interests of the Observatory.

"It could not be anticipated that a great work like the organization of such an institution as we had in view, could be carried to its consummation without embarrassments and personal annoyances. All concerned must naturally expect to bear some portion of the burden, looking for their reward to the brilliant success which should crown their united and harmonious action.

* * * * *

"Of the donations during the year subsequent to the inauguration of the Observatory, I need not speak. All of the Scientific Council aided with their best exertions, and had united in pledging their reputations that in case the desired endowment could be secured, the success of the Dudley Observatory should equal the hopes and anticipations of its most sanguine friends. All, excepting myself, had joined with the Executive Committee in soliciting and advocating the aid of wealthy citizens in various parts of the country, and the appeals met with a liberal and generous response.

“What sum had been received previous to the commencement of the present financial troubles, I do not know; but from the intimations of the Executive Committee, I apprehend not only that all has been expended as fast as received, but that the donation of Mrs. Dudley towards the endowment has been encroached upon to some considerable extent, and it is very evident that but small hopes can reasonably be entertained of any new donations, in the present state of financial affairs, throughout the land.

“The apprehension of some cessation of the gifts, which have flowed into the treasury of the Observatory with such liberality during the last year, has continually distressed me; but under the peculiar relations I have occupied towards Messrs. Olcott and Armsby, I have been fettered by a sense of delicacy, and have not felt warranted in remonstrating with gentlemen to whose energy the inception of the undertaking has been due, and whose exertions to obtain the funds have been so unremitting. There is, however, an evident tendency to devote more attention to appearances than to realities, and I do not think that the importance of obtaining a proper endowment, before attempting to commence active operations, has been sufficiently felt. At present the Executive Committee seem extremely desirous to commence as soon as the dwelling-house is completed,—a plan which seems to me ill-adapted to promote the true dignity of the Observatory, to whose establishment we have looked forward with so much pride and confidence. They take the ground that until “results” shall have been obtained, no farther contributions can be expected. Under these circumstances, it is my desire to be guided by your advice.

“One point seems to deserve allusion before passing from this subject. Being not only influenced by considerations of taste and of economy, but impelled also by apprehensions as to points essential to the proper performance of the work going on, as regards its adaptation for astronomical use, I urged upon the Executive Committee the importance of permitting the work to be guided by one mind alone. They readily acceded

to my views ; and so strongly was I impressed with the importance of preventing the recklessly lavish and injudicious expenditures of Dr. Armsby, that, although oppressed as you are aware with overwhelming labors, I undertook the responsibility and care incident to the entire charge of the work, and was formally installed by the Executive Committee as Director and clothed with full executive powers. I was assured that no outlay should be made or expense incurred without my approval ; that no more money should be expended upon external decorations until essentials should have been provided for ; and that all persons employed upon the building should be instructed to receive orders from me alone.

“ At the same time a liberal offer of salary was made me, which I declined, preferring to render whatever services might be in my power as a contribution towards the great end in view,—but stipulating as before that no labors or exertions of mine towards the completion and equipment of the institution should be considered in the light of an indirect promise to take charge of the Observatory when completed. Of course I did not assume the charge of any matters of finance, but undertook the directorship of all matters of construction, execution and administration, endeavoring to inform myself as well as possible of the state of the finances ; and on two occasions the Treasurer politely furnished me at my request with such information. I visited Albany even more frequently than before, and gave attention to all matters of detail. But to my pain and sorrow I found all in vain. My orders were constantly and persistently disregarded, and at each successive visit I found more numerous demonstrations that my directorship was but nominal. Written directions were set at naught, and the same tendencies as before were manifested, to an extent which left me no other alternative than to surrender the responsibility which I had assumed. Self-respect, and unwillingness to be even the apparent originator of many changes repugnant to my taste, required this. And as fortunately the directions for all the remaining steps of scientific importance had been already given by me, my withdrawal involved no dereliction of duty.

I therefore soon ceased to attempt the exercise of any functions of directorship, apart from the prosecution of the purely scientific operations already in progress.

“Since this period the expenditures appear to have been going on as before, at a rate which may almost be characterized as inordinate, although the work appears to be performed as a general thing in a very inferior style. With the circumstances attending the erection of the dwelling-house, gas-house, &c., you are already familiar and I need not recapitulate them. They will serve as illustrations.”

5. *Dr. Gould's delay in coming to Albany.*—In the original letters of the Scientific Council, August 8 and August 11, 1856, it was distinctly and unequivocally stated that “the Observatory cannot be creditably conducted for less than \$10,000 of annual outlay.” All the pledges of the Scientific Council and the Director were based upon the condition of obtaining this amount of income; and never did they swerve from this condition until the financial crisis of last winter. In all this interval of time, therefore, from August, 1856, till the winter of 1858, Dr. Gould was under no form of obligation to the Observatory; and all that he did for it during this period was a voluntary as well as a gratuitous contribution to its success. To turn round upon him now, after this long-continued and self-sacrificing devotion to their cause; to make this the basis of charges in order to screen themselves from the consequences of their own wasteful expenditures of money, expenditures against which Dr. Gould had constantly protested; and to found upon it an additional accusation, because, in perfect and entire conformity with their contract, he waited till the obligation of action was imposed

upon him by the non-accomplishment of the promised subscription for the endowment, are acts of ingratitude which require no epithet.

There was abundant reason for Dr. Gould's delay in coming to Albany. He was overwhelmed with business which had accumulated in his regular Coast Survey duties, in consequence of the time which he had gratuitously devoted to the Observatory, and investigations relative to the Chilean expedition which he had previously undertaken. The endowment had not been completed and there was no provision made for the support of the Observatory. Under these conditions the Scientific Council did not think it proper to urge him immediately to come to Albany, and indeed he had given no pledge that he would permanently accept the office of Director previous to the completion of the endowment; the only presumption that he would accept it after that condition had been fulfilled arose from the zeal he had manifested in the cause and the time and labor he had devoted to devising and procuring the instruments. It was not until the financial condition of the country rendered it improbable that any more funds could be raised at that time, and until after the difficulties relative to Dr. Peters had occurred, that it was evidently necessary that the establishment should be under the immediate charge of a resident Director. The Scientific Council, however, did not think it proper to make a farther draft upon the generosity of Dr. Gould, by requesting him to assume the responsibilities and difficulties of the position, and to make farther sacrifices in regard to it, while the prospect of completing the endowment was so uncertain.

He generously, however, relieved them from this embarrassment by offering to remove to Albany and take charge of the whole without the prospect of any remuneration. Dr. Gould is, after Mrs. Dudley, the principal contributor, by the devotion of his time, his talents, his thoughts and his labor; and to make it a ground of complaint against him that he did not sooner come to Albany, is not only unreasonable, but most ungenerous and unjust.

6. *Application for another and a rival position.*—This identical charge was urged in the presence of Mr. Olcott, at his office, in December last, and Professor Peirce then and there made a distinct statement of the facts of the case, which were understood at the time to receive the unqualified approbation of Mr. Olcott.

This was the statement:

Sometime in the course of the previous year an informal and unofficial letter had been written to each one of ourselves individually, in which we were given to understand that a professorship of Astronomy was likely to be established in Columbia College, New York, and inquiry was made as to whom we could recommend for this chair. We named various gentlemen, and, without any mutual communication or knowledge on the part of any one of us that the others had been consulted, each stated that he regarded Dr. Gould as the gentleman best qualified to fill the professorship. Professor Peirce went a step farther, and recommended that arrangements should be made by which the professorship should be combined with the office of Director of the Dudley Observatory; and argued that this combination of offices, which was common in Euro-

pean institutions, would unite the two interests. When subsequently the office was actually established, there was no candidate recommended by these gentlemen either for the astronomical or for the mathematical chair, and their intentions were pointing in a totally different direction.

In these steps Dr. Gould had neither part nor knowledge; he was in no way implicated; and no measures were taken to ascertain whether he would have accepted the professorship, had he been invited to assume it.

A "rival institution" is here alluded to as if it were a rival manufactory or commercial firm, whereas it is simply another institution for the promotion of astronomical science, which should compete generously with the Dudley Observatory, not rival it, as in the commercial sense of the President.

7. *The sacrifice of Dr. Peters.*—This is a delicate point and one which we should ourselves have hesitated to bring before the public. If in our exposition of the case we are obliged to present facts which will not place Dr. Peters in a very enviable position, and circumstances which may not be agreeable to the President of the Board, the result must be attributed to Mr. Olcott alone.

According to Mr. Olcott, Dr. Peters "is not a specious, entertaining, pedantic theorist, abounding in contrivances of a useless and visionary character," but "a ripe scholar, an accomplished astronomer," who "can fathom with profound mind the profounder depths of science." "A foreigner, a comparative stranger in our midst, with but few friends," "gifted but unpretending," he "was driven from our city" by the "decree" of the Scientific Council because he

ventured to "presume on the liberties of manhood in this the land of his adoption."

The view given by Mr. Olcott of the case of Dr. Peters is such as actually to condemn the Board of Trustees, by whom what Mr. Olcott terms "the sacrifice" was made. If Dr. Peters is such a man as Mr. Olcott represents him, or if the Trustees believed him to be such, it was a grievous wrong and a high outrage thus to "sacrifice" him and drive him from the city. No motives of "Harmony" could have justified the sacrifice of such a man. We prefer, however, to believe that they adopted our valuation of the services of Dr. Peters, and that in procuring a place for him at Hamilton College they considered that all obligation implied in the support which they had extended to him, had been discharged.

Dr. Peters is a Dane, of considerable acquirements and practical knowledge, who, after unsuccessful attempts in Germany, Italy and Turkey to find permanent employment, decided to seek his fortune in America, and for this purpose wrote to Dr. Gould, with whom he had become acquainted in Europe ten years ago, asking his aid and influence in obtaining employment here. Dr. Gould advised him not to come, but promised his best efforts to help him should he determine to do so. He came; was received by Dr. Gould into his household as a guest; through Dr. Gould's exertions he was appointed to a subordinate position as a computer in the U. S. Coast Survey; and he was intrusted by Dr. Gould with numerous computations relative to his own private work, for which he was more than liberally compensated. Impelled still farther by sympathy, and reliance upon his supposed

friendship and honor, Prof. Bache and Dr. Gould yielded to the wishes of this person that he might perform his labors in Albany, and represent Dr. Gould at the Observatory where the work of construction was going on. As part of his duties under the Coast Survey, he was directed to determine the latitude and approximate longitude of the Observatory, as a point in the Hudson river triangulation, and at Dr. Gould's instance an increase of pay was allowed him, on this account, by the Superintendent of the Survey. The necessary instruments were forwarded from Washington and the necessary directions and explanations given by Dr. Gould. We are informed that these observations for latitude and longitude have never yet been reported by Dr. Peters.

In the summer of 1857 the irregularities and delays in computing the predictions of occultations, which Dr. Peters was executing under Professor Peirce, had become so serious, that the Superintendent of the Coast Survey determined that Dr. Peters must confine himself to these computations, returning to Cambridge so as to work effectively with Professor Peirce, who had the charge of them. No diminution of pay was proposed by Professor Bache, who actually departed from official usage by informing him of the reasons for the instructions given, viz. : that the progress of the computations required, not only Dr. Peters' whole time, but his constant intercourse with Professor Peirce. Dr. Peters objected to the removal, although but a short time before he had been eager and thankful to accept any position, however humble, which might be assigned him, and declined to give any reason to Professor Bache

for his avowed unwillingness to return to Cambridge. A week was allowed him to consider the matter; and at the expiration of this period an official order was sent, transferring him from Dr. Gould's corps and directing him to report to Professor Peirce, at Cambridge. Without explanation Dr. Peters replied by resigning the place upon the Coast Survey. His separation from the Survey was his own act. The order given by Professor Bache was not prompted by suggestions from Dr. Gould, who was at the time, as we learn, quite ignorant of the state of feeling towards him subsequently fully manifested by Dr. Peters; but was occasioned by a prudent regard for the interests committed to his charge.

Although at first Dr. Armsby made many complaints of Dr. Peters and applied for his removal, the latter succeeded subsequently in ingratiating himself with him and in commending himself also to Mr. Olcott. A state of feeling was manifested in Albany relative to Dr. Peters' resignation, which appeared at the time unaccountable; and in opposition to the advice of the Scientific Council, and after Dr. Gould had declined to appoint him Assistant in the Observatory, we received notifications from the Secretary of the Trustees that he had been elected "Observer." We received, however, subsequent information from the President, General Van Rensselaer, and from more than one other Trustee, that no such election had been made; a statement which seems to be confirmed by the subsequent action of the Board.

On this occasion the Scientific Council assembled in Albany, and upon their application to General Van

Rensselaer, a meeting of the Trustees was held, at which the Council were allowed to be present. They severally addressed the Board, urged the importance of harmony, the necessity of subordination, and the propriety of leaving the Director to nominate his own assistants. The majority of the Trustees concurred, and acknowledged by their acts the inconsiderateness of their previous step.

Dr. Peters had placed himself in the very unenviable position of one who endeavored, not only to undermine the position of his official superior, but also to injure and traduce his benefactor. Through the influence of the Trustees, Dr. Peters was provided with another position, to which Mr. Olcott is understood to have largely contributed, and harmony was apparently restored. But the seeds of discord were too deeply sown, not to germinate and bear fruit. And as the probable explanation, we are compelled to record a circumstance, petty in itself, but of which the effect may perhaps be rightly appreciated by those acquainted with the peculiarities of Mr. Olcott, now President of the Board, and for some time past the unrelenting opponent of Dr. Gould.

The first instrument completed for the Observatory was a small telescope of the kind known as "comet seekers," and Dr. Gould had directed Dr. Peters to institute a search for comets by carefully sweeping the most promising portions of the heavens, in order by some discoveries of this kind to obtain for the new Observatory a certain popular favor. Four comets appeared, and were detected elsewhere before his search proved successful; but at last a telescopic comet (1857, IV.) was found by him, two days prior to its detection in Europe. This

discovery, though not a very important addition to human knowledge, received the generous commendation of Dr. Gould, who considered that it would be especially gratifying to Messrs. Armsby and Olcott, and might stimulate some liberal citizen to farther donation. A different and adroit use of the circumstance, however, was made by Dr. Peters to advance his own interest, and he pretended to confer upon the celestial visitant the name of "Olcott-Comet." We say pretended, because he well knew the name could not be adopted. This ridiculous procedure was entirely unwarranted by astronomical usage, and the name has of course never been adopted by a single astronomer. Dr. Peters well knew that after the world had refused the honored names of Herschel and Le Verrier to the celestial bodies with which these names are indissolubly associated in history, it would hardly confer upon a telescopic comet the name of the then Vice-President of the Trustees.

Dr. Gould is the editor of the *Astronomical Journal*, and in his official capacity, although of course desirous of gratifying the feelings of Mr. Olcott, he felt obliged to change the editorial heading of the article to the words "Fourth Comet of 1857," although he left the words "Olcott comet" in the body of the communication, which he generously published in Dr. Peters's behalf alone, without any allusion to their official relations. We can understand that it may have grated upon Mr. Olcott's feelings to have his name thus stricken from the celestial catalogue by one over whom he had, in his connection with the Observatory, an official and legal control. We leave it to others to decide whether his lamentations, uttered over the "sacrifice" of "the gifted and unpretending Peters," might not have been

due as much to the offended dignity of a Trustee as to the sympathetic benevolence of an astronomical arbiter; whether there may not be plausibility in the suggestion that this occurrence has tended to shape his subsequent course, and whether the present crisis may not have been in some measure owing to the baleful influence of the Fourth Comet of 1857.

In this connection, and in farther explanation of the unrelenting course pursued by the majority of the Trustees, we feel bound to mention another fact. Great difficulties were encountered in boring or drilling the horizontal holes through the stone piers of the meridian circle, a difficulty attributed by Dr. Gould in great measure to the inefficiency of the tools. He changed the whole character of the drills, using cast iron instead of steel; and with much simpler appliances has accomplished the work successfully. Meantime a bill had been presented, relative to which Dr. Gould applied to Mr. Olcott for instructions, declaring that he had no hesitation in saying that the bill for these tools would be enormous, even had the articles been good. He goes on to say "In this contingency I see no course open but to apply to you for instructions in the premises. I cannot certify to the bill and must enter my protest against it. Any responsibility in the premises which you think it right or proper for me to assume, I will take cheerfully."

Dr. Gould never saw the inefficient tools for which this bill was rendered, until they were in use at the Observatory; he gave no drawings or other instructions in regard to them, and in short had no responsibility concerning their manufacture.

We think it will be considered evident that this

course on the part of Dr. Gould indicates at least a fearless determination to do right, when we add that the leading member of the firm who presented this bill was one of the Executive Committee, and one, moreover, who has since that time been among the most active in his opposition to Dr. Gould, and in the attempts to annoy and persecute him.

We admit that in these cases Dr. Gould might have adopted a course more conducive to "Harmony," but what intelligent and high-minded man will presume to say that he has done wrong?

8. "*Wasteful Expenditures.*"—*Dr. Gould "not responsible."*—The President of the Trustees asserts that wasteful expenditures have been made, and he should at least know the nature of the financial concerns of the Institution. It is for the donors, whose money has been thus wasted after being intrusted to the Board and its Executive Committee, to inquire into this. We were advised by counsel that it might be our duty, under the appeal of Mrs. Dudley, to take this disagreeable step, and that an application to the tribunals of the state for an investigation into this matter might be necessary. The legislature of the commonwealth should no doubt be called upon in the proper form to investigate this grave subject, in regard to which the statement of the President covers such broad ground and is so boldly made. What guards were thrown around the treasury of this sacred trust? What rules adopted for auditing and paying accounts? The President of the Board, who is also the Chairman of the Executive Committee, and whose prominent and controlling part in all the money matters of the Institution is well understood, states, for the sake of impeaching

the judgement and conduct of Dr. Gould, that expenditures made under his direction have been wasteful. And this, too, when he is aware that the contracts and bargains have, in nearly all of the cases of any consequence, been made under the authority of Dr. Armsby, his colleague of the former Executive Committee, and that some of them were executed by his colleagues of the Board. That Dr. Gould's mild and temperate statement in regard to one of them (see his letter May 13,) was the cause of part of his difficulties cannot be doubted. If the system of accounts has been loose,—in regard to which we have no evidence, nor feel it our present duty to make investigations, but which is charged in the passionate statement of the President,—who is responsible for this, excepting the President himself, the Executive Committee, or the Board of Trustees?

It will be recollected that it was after the declaration which Mr. Olcott alleges to have been made to the Trustees by Dr. Gould, that “he was not responsible for anything which had been done at the Observatory,” &c., and which Mr. Olcott now characterizes as “astounding,” that the Board of Trustees sanctioned his appointment as Director, and Mr. Olcott said in his letter to Prof. Henry (1858, Jan. 23,) “We placed the Observatory, the day after you left, in the entire and exclusive charge of Dr. Gould, subject only to the Scientific Council.” The time to deny Dr. Gould's allegations was at the meeting of the Board, and the mode was by rejecting him on account of them. If he was accepted, either his allegations were correct and the Trustees accepted them as such, or else they were inoffensive, or gave so little offence that it could be

overlooked. To allow such things to rankle in the mind—to treasure them up in the store-house of the memory—is not to fulfill the great Christian law. We are of opinion that the Trustees well knew that Dr. Gould was not responsible for the outlays which had been made, and that, if “wasteful extravagance” had been committed, they and their agents were responsible for it. The great majority of the Board might even feel that they had no responsibilities; for their meetings had been few and far between, and the attendance on them quite irregular. This attempt to fix the Observatory expenditures upon Dr. Gould is unsupported by the rules which govern any well regulated institution. If Dr. Gould, induced by the magnificent views and magnificent promises of Dr. Armsby and Mr. Olcott, had advised expensive changes, it was their duty to reject them if they would lead to “wasteful expenditure.” The fact is, that all the matters recommended seem to us desirable for an institution on the scale proposed by the Trustees, and most of them indispensable. The arguments tending to show that this or that thing might have been done cheaper or better, are all fallacious. It is easy to be a prophet after the event. We find in the correspondence of Dr. Gould with Dr. Armsby and Mr. Olcott abundant evidence of his desire to economise in these expenditures, and numerous expressions, delicately but clearly expressed, of regret and dissatisfaction at the cost of various matters for which Dr. Armsby had made the Observatory responsible.

9. *Avowed Hostility, Designed Affronts.*—We have examined the allegation of avowed hostility of Dr.

Gould to the Board of Trustees, and declare that it has no foundation in fact; that he was neither hostile in action nor in communication. The temperate and conciliatory character of his letters under affronts to him, and petty annoyances which might well have justified some irritation of tone, is upon the whole remarkable.

The matter of the visits of the Trustees to the Observatory and of the difficulties with Dr. Gould's assistants, for none we believe are alleged with him, is touched upon lightly by Mr. Olcott. We have only *ex parte* testimony in regard to it, Mr. Olcott having declined to submit any testimony to us. The reports of the assistants place the Trustees more or less completely in the wrong, and the subsequent votes of the Executive Committee show a state of irritation which was highly unfavorable to cool and sound judgment of the relation of the parties, or to a correct recollection of the transactions themselves.

No evidence has reached us of open and designed affronts to members of this Board, and we are convinced that, if Dr. Gould had been given a hearing, the Board must have been satisfied that no affronts were given or were intended.

10. *Meeting in January.* — The transactions of January, 1858, constituting as they do, in a moral if not a legal point of view, a contract between the Trustees of the Dudley Observatory and the Scientific Council, deserve to be stated in some detail. Mr. Olcott had made, on behalf of the Board, to a member of the Scientific Council, Professor Bache, several propositions, the acceptance of any one of which by the Council would be satisfactory to him.

The circumstances of our appointment should not here be lost sight of, nor the fact that friends and donors to the Observatory took part in the meeting; nor that the Executive Committee, composed of Mr. Olcott and Dr. Armsby, took part in the meeting—the former addressing it, and both of them calling upon Prof. Henry and Dr. Gould to do the same. These gentlemen always wrote and said to us that the scientific control of the Observatory was to be exclusively with us. We were the Scientific Council, to manage the scientific concerns of the Observatory, and not to suggest to or advise with the Trustees;—the Council not the Counsel.

The first of Mr. Olcott's propositions was to place the Observatory immediately and entirely in Dr. Gould's charge, subject only to the Scientific Council in scientific matters; provided he would bring two assistants with him, and provided all would labor without expense to the Observatory; Mr. Olcott guaranteeing at the same time that the small amount necessary for mounting the instruments and the indispensable equipments should be furnished.

When it is recollected that the Council had declared that with a less income than \$10,000 the Observatory could not, even with the most rigid economy, be supported in the manner intended by the Trustees, it may be a matter of surprise that they concluded to take charge of it with an income of scarcely one-third of that amount, and this, too, actually mortgaged at the time for two years, thus rendering it certain that the Institution must be carried on mainly by private contributions, or that all labor must be voluntary. We regarded the

contract of January as giving us the means of using Dr. Gould's extraordinary talents and precision in such ways as by their fruits to induce new donations to the Observatory. We knew that his generous and zealous character was appreciated by his assistants in the longitude party of the Coast Survey, and that they would join him as volunteers in the great cause of astronomical science. The arrangement was the best which, under the circumstances, could be made, and we were willing to abide by it. Before it could be consummated we were somewhat surprised to find that the appointment of the Scientific Council by the donors and others, in 1855, had not been ratified by the Board. So loosely had the concerns of the Board up to this time been conducted, that we were actually acting as a Council, corresponding with and meeting the members of the Board and of the Executive Committee, brought prominently before the public at the inauguration festival as responsible for the scientific concerns of the Institution, allowing donations to be solicited and made by the use of our names as a Scientific Council, and yet we had never been elected "at a regular meeting of the Board." The public will thus have some insight into the mode of doing business by the Trustees, and will pardon us as scientific men if we have looked less closely to the form than to the substance of our appointment, and had believed ourselves formally in charge of the scientific concerns of the Institution. At the instance of Mr. Olcott, we had actually accompanied members of the Board in the city of New-York to solicit contributions to the Observatory, and had appeared formally before the underwriters to invoke their aid.

The resolutions of the Board at this time confirmed our appointment as a Scientific Council, and ratified the proposition of Mr. Olcott, to which we have just referred.

The Scientific Council also ratified this compact, but in ratifying it felt bound to correct a supposed accidental error or want of precision in the statement of the Trustees' resolution. At their meeting in Philadelphia on the 8th of February, 1858, they passed a resolution declaring that the acceptance by Dr. Bache of Mr. Olcott's proposition, was made by him in behalf of the Scientific Council of the Dudley Observatory, and not in his capacity of Superintendent of the U. S. Coast Survey.

The Council understood that this arrangement pledged the Trustees and Council mutually for at least two years, for which time the income of the Institution had already been anticipated, and we proceeded accordingly. That the moral obligation is with us we believe, and that this is a contract which morally, and, we think, legally binds the Board and Council. That the Trustees should take advantage of their own wrong, and in ratifying our appointment should seek by resolution to abridge our powers, is clearly against the principles of law and morality.

The alleged "alarming peculiarities of Dr. Gould" do not, in our view, justify the action of the Board in breaking this arrangement without our and his consent.

Mrs. Dudley's Gift.—In his letter to Professor Bache of December 19, 1857, Mr. Olcott says:

"But the donation of Mrs. Dudley is not to be encroached upon, beyond what has already been done, which may consume its next two years' income."

In the second column of Mr. Olcott's recent document, he says :

"Excepting a few hundred dollars for mounting the instruments we should have no money to disburse for two years to come, as we could not encroach upon our invested fund of \$50,000 given by Mrs. Dudley."

At the conclusion of the same document, Mr. Olcott says :

"We have, *unencroached upon*, the endowment of Mrs. Dudley of \$50,000.

Has Mrs. Dudley's donation been encroached upon, or not ? If yes, by what authority ? If no, where is the income ?

11. *Money Matters.—Application to Trustees.—Private Resources, &c.*—After stating that Dr. Gould had applied for a new dome, and had asked for more than \$3800 for mounting instruments—an assertion which we have shown, under the head of "Loose Statements," to be entirely inaccurate—Mr. Olcott says that the Trustees have allowed of this sum "every dollar asked for scientific purposes," and "several hundred dollars for the personal comfort and convenience of Dr. Gould."

Mr. Olcott continues : "And yet, in the face of these facts, he says, in a letter of May 31st, that he has been obliged to advance, from his own private resources, the necessary means for the operations of the Observatory, and without aid, thus far, from the Trustees." Now we ask, do the facts disprove Dr. Gould's allegations ? or does not Mr. Olcott know the difference between the "operations of the Observatory" and the mounting of

instruments? Dr. Gould has, since his removal to Albany in February, actually advanced from his own resources, or become individually responsible for, the sum of more than \$3000 for the *operations of the Observatory*; and the only sums received thus far from the Trustees, are for mounting the instruments and for arranging the premises. Dr. Gould was actually obliged to devote to the end of carrying on the Observatory the receipts of his labor in the work of the Chile Astronomical expedition, in which he was called upon, in a manner so honorable to him and to the chief of the expedition, to take part. When the premises were first occupied by his assistants, they were obliged to perform all domestic offices of every kind for themselves. The balance of the sum appropriated for determining longitude, estimated at \$1400, was actually promised toward the support of the Observatory, but has not, up to this time, been devoted to that purpose. The promise was made by the President of the Board, in presence of one of the Council. Having been denied access to the minutes of the Board, we cannot say that no resolution has been passed, appropriating this money to observatory purposes; but we can say that none has been communicated to Dr. Gould. The statements are not fallacious, as alleged by Mr. Olcott. Dr. Gould is carrying on the operations of the Observatory, at a rate of not less than \$150 a month from his own private means. It is ungenerous enough to permit this, but worse than ungenerous to deny the fact,

It will be recollected that Dr. Gould's letter is to the Trustees, and that he was addressing a reminder to that body, and not making a charge to the public, and

this, too, after irritations had come thick and fast upon him.

We have carefully examined the allegation of Mr. Olcott, that Dr. Gould had asked for more than \$3,800 since his removal to Albany in February, and that the Trustees had "allowed every dollar asked for in aid of scientific purposes, and several hundred dollars for the personal comfort and convenience of Dr. Gould," and we find as follows :

Dr. Gould has, in addition to recommending the mode of distribution of this promised balance of the longitude-appropriation (earned for the Observatory chiefly by his own exertions and those of his assistants), and of which none of the items were allowed, excepting \$500 for mounting and bringing into use the meridian-circle and calculating-engine, made the following recommendations on pecuniary subjects :

1. For casing the piers he asked leave to incur the necessary expenses, which he estimated at \$300, but desired a margin of 30 per cent. This was, after some delay, allowed.

2. For digging a well, building a fence and rendering the Observatory accessible by a plank walk (Albanyans will understand its necessity), he recommended an appropriation of \$270 with a margin of 20 per cent. This was voted with the condition that its expenditure be placed in the hands of a special sub-committee.

3. He announced to the Trustees that he had engaged Mr. Richard Bygate to take charge of the premises at \$700 a year, and was ready to meet the outlay in case the Board should not approve his course. They have not been willing to meet this outlay.

4. That the bills yet due of Messrs. Farmer and Polsey for orders given in 1856, by direction of Mr. Olcott, be paid. Their amount was \$258.98, and when the officers of the Board declined immediate compliance, the payment was promptly made by Dr. Gould himself, and refunded some weeks later by the Trustees.

5. That the batteries for supporting the seven sympathetic dials for the only two astronomical clocks owned by the Observatory, and for driving one of these clocks, be provided. The cost he estimated at \$110.

6. He has asked the payment of some bills for rare old astronomical books secured by the wish of Mr. Olcott, at European sales, previous to his removing to Albany. The exact sum is not at hand.

The only outlays which we find capable of being considered as intended to contribute to the personal comfort of Dr. Gould, are: 1st. The sum of \$78.69 paid by him in April for digging a well and obtaining water, and which was afterwards refunded. 2d. The rendering the roof watertight, *which only took place within the last four or five weeks.* 3d. The building of a fence (Dr. Gould himself had put up one), and 4th. The laying of a line of planks to render the Observatory accessible in bad weather.

We submit whether such expenditures justify Mr. Olcott in his sneers at the Director, who has been laboring so assiduously in the cause of the Observatory.

We shall return to this subject when we come to speak more fully of the annoyances to which Dr. Gould has been subjected by the Trustees and their Executive Committee.

If the available means of the Observatory have not been consumed, why have they not been put at Dr. Gould's disposal ?

12. *Payment of unauthorized demands.*—It is true that the outlays requisite for carrying on the Observatory have not been authorized by the Trustees, and also that they have been uncomplainingly paid by Dr. Gould, from such resources as he and his friends could command. How this can be distorted into a ground of censure we cannot comprehend. That they were not “unnecessary” as Mr. Olcott asserts, may be inferred from their objects; among which were the furnishing of the entire house and office, the means of lighting and heating, stationery, the salaries and pay for care of premises, the superintendence of the grounds and the Observatory building, the pay of the assistant who has had charge of the Calculating Engine, of the messenger and mail carrier, the making of a road, the laying out of grounds, the purchase of computing-tables, star-charts, and other works of reference, the constantly needed small repairs, &c., &c.

We consider that these facts prove a shameful neglect of duty on the part of the Trustees, and only wonder at this unauthorized liberality on the part of Dr. Gould, considering the limited extent of his pecuniary means.

13. “*Gross and deliberate insults.*”—Mr. Olcott next proceeds to his charge of “gross and deliberate insults to the Trustees,” — in order to discuss which very fully we propose following the correspondence of Dr. Gould with the Trustees, as contained in his printed pamphlet.

On the 21st of January, two days after the compact with the Council had been formally ratified, Dr. Gould addressed the Trustees (see letter *A* of Correspondence), applying for permission to use the promised appropriation of \$1400 for mounting the instruments, furnishing the dwelling-house and office, bringing the calculating machine into use, and for stationery, fuel, lights and books.

We have already shown that the charges made by Mr. Olcott against Dr. Gould, contained in the next following paragraphs of his statement, are not correct; that Dr. Gould did not ask for a new dome, as alleged by Mr. Olcott, and that he had actually been supporting the Observatory from his own private resources—a statement which Mr. Olcott pronounces fallacious. Following the correspondence between the officers of the Board of Trustees and the Director, which is in print in the hands of many of you, we proceed to show that “every dollar asked for [by Dr. Gould] in aid of scientific purposes” was not granted, as alleged by Mr. Olcott, and that Dr. Gould’s statements of these matters in his letter of March 31st are not “fallacious” but correct.

The appropriations were not only not made until March, but were ingeniously contrived not to meet Dr. Gould’s estimates. He had recommended the mounting of the meridian-circle, and estimated the cost at \$300; also of the small Coast Survey transit, at a cost of \$50. The Trustees appropriated \$300 for mounting the meridian-circle, and \$150 for mounting the large transit instrument of the Coast Survey, the putting-up of which he had not recommended, because, as he said,

“the other items seem to have a prior claim.” The Secretary of the Trustees writes that “the Trustees could not authorize the other expenditures for furnishing the house, etc., proposed in Dr. Gould’s letter of Jan. 21st, until the appropriation of \$2,000 from the State shall have been secured.” Now, was any farther appropriation made, after \$1,000 of the State appropriation had actually been passed over by the Regents to the Trustees? Dr. Gould addresses the Board in a respectful explanatory letter on March 4th as follows :

You are aware that, in the absence of any appropriation by your Board or authority from its officers, no means have been or are available for the earliest preliminary steps; such as the purchase of furniture, fuel, illumination, or stationery; that no provision has been made for care of premises, or the requisite manual labor; and that the scanty furniture of the dwelling house and office, the fuel, and the numerous outlays incident to the enterprise, are necessarily at the expense of the undersigned. It is of high importance, if not indispensable to a successful prosecution of the work, that some fit person should be placed in charge of the premises, to assume the care and supervision of the house and grounds, and I have given much time to the endeavor to secure the services of a proper person, but thus far have found no satisfactory one whose employment would be within my power. I should be glad to learn from the Trustees or their representatives, their views of the course most proper for me to adopt, with regard to this and similar points—being alike anxious to conform entirely to their wishes, to assume no improper authority, and to evade no responsibility. Having undertaken both to carry on the Observatory, and to determine its meridian, with such aid as is furnished by the legislative appropriation, although this is not more than adequate for the latter object alone, your Scientific Council will spare no exertions to fulfil the spirit as well as the letter of their obligation to the Trustees.

But it is most certain that this class of expenditures were not anticipated or considered by the Council, who had in mind only the fulfilment of the scientific duties, after the construction and equipment should have been completed. * * *

Whatever the views of the Trustees upon these questions may be, I should be glad to learn them, and shall endeavor to govern my course by reference to them.

It had been my intention to present the substance of these few remarks to your Board at its recent meeting, but being uninformed of the time at which it was to take place, this was impossible for me. I have therefore requested your President to convene the Executive Committee, of whose appointment I have indirectly been informed, trusting that it may thus be possible for me to arrive at a better understanding of your wishes and views.

To this respectful and explanatory letter no reply was given, and the exclusion of Dr. Gould from the meetings of the Executive Committee, and of the Board, has deprived him of the opportunity to make such personal explanation as might have enforced his written statements.

Votes of the Executive Committee were communicated to Dr. Gould, by the Secretary, on the ninth of March, showing that the Committee had actually met; but no notice was given of any action relating to the casing of the piers, and the cost of bringing the Calculating-Engine into use—though the former was among the items which Dr. Gould had stated in January to be necessary to the mounting of the circle, and the sum which the latter would cost had been stated in his estimates. When Dr. Gould called upon the President, in his letter of March 10th, in reference to this matter, the Secretary of the Trustees, Dr. Armsby, replies that he “inadvertently omitted to send” him the resolutions.

relating to it; so that, had not Dr. Gould made his appeal, the action of the Committee would not have been known to him, the piers might to this day be without essential covering, and the Calculating Machine, by which the true anomaly of Mars has already been computed, might still be unused. Such an omission by a Secretary might be called by a less mild term than inadvertence.

The letter of the individual Trustees — which includes the names of seven out of eight of the Board who subsequently voted against Dr. Gould, viz.: Thomas W. Olcott, Isaac W. Vosburgh, William H. De Witt, J. H. Armsby, Alden March, S. H. Ransom and John N. Wilder — shows, in our judgement, a most extraordinary spirit of intermeddling. It was not sufficient that Joseph McGeough should impede the progress of organization, by occupying rooms in the Observatory building which were needed for the scientific operations, but his irregular conduct and his annoyance of Dr. Gould were sustained; and this, though in his kindness of heart Dr. Gould had offered McGeough pecuniary aid towards covering the expense to which his removal might subject him. This occupancy, which continued until May 1, actually debarred the astronomers from the use of the whole of the basement rooms of the Observatory, needed for the batteries, clocks, storage, &c.

Up to this time (April) there was no well, and water had to be carried up the hill for all domestic purposes from the pumps in Van Woert-street; there was no plank walk to render the Observatory accessible, although the approach to it is, for a great part of the distance, up a steep clay bank, destitute even of a grass

sod; and while the frost was leaving the ground, as it was during the months of February and March, the weight of the body often plunged the feet five or six inches deep in miry clay. The fences were not completed; the drain and sewer of the house were unfinished, and the coating of the roof was defective; no janitor or person to take care of the premises had been furnished by the Trustees; and finally, instead of committing these matters to Dr. Gould, a sub-committee was actually appointed "to supervise the improvements proposed by Dr. Gould." The matter of furnishing the house, the salary of janitor, &c., was referred to a committee, of whose action the Director has never been advised, if indeed they have ever acted at all. The leaking of the roof of the house continued; and on the 12th of April, Dr. Gould addressed the President in regard to it, and the injury to the building and discomfort to the occupants were only remedied by proper repairs about the 25th of that month. The longitude-operations which the Superintendent of the Coast Survey had agreed to make were actually delayed, and additional expense in regard to them necessarily occasioned by a vote of the Executive Committee, that the operations should be paid for after they were completed, instead of making an advance to meet the expenses as they were occurring. This was remedied but not until delay and unnecessary expense had been caused. Mr. Olcott treats this in his letter of April 29 as a "misunderstanding," and possibly it was such, but it was an unfortunate one. The final votes of the committee were only extracted from the tardy Secretary by an application from Dr. Gould on the Thursday after their Monday's meeting.

At this time occurred one of the incidents in the history of this meddling, which if not unprecedented, is certainly most reprehensible. The Executive Committee met, and without consulting the Director, or any member of the Scientific Council; threw open the grounds of the Observatory to the public; directed the Treasurer to procure duplicate keys to the Observatory; and requested Dr. Gould to place one set in his dwelling-house "for the sole and exclusive use of the Trustees;" so that while Dr. Gould was held responsible for the care of the Observatory and its instruments, he was to be deprived of the power of effective control. To understand this high-handed step we must look back to the occurrence of a few preceding days, and forward to the fourth resolution adopted at this time, which was this:

"Resolved, That Dr. Gould be officially requested, through the Secretary of the Board, to instruct the boys and young men, who, as employees of the Coast Survey, are under his direction, that the Institution was endowed to a great extent through the efforts and by the munificence of private individuals residing in this city, and that the labor of securing the construction of its buildings, and their present equipments, has principally been performed here, and that it is largely dependent upon the friends of Astronomical science in this vicinity for its future progress and usefulness. And that hereafter the Board of Trustees will require for themselves personally, and for all persons visiting the Observatory, the candor, courtesy and civility everywhere essential, but especially so in an Institution which originated in the most generous and disinterested intentions, and which can only accomplish the work of its founders by securing in every legitimate way, and so deserving, the popular favor and support."

We shall not hesitate to speak plainly in this matter. It is thus slurred over by Mr. Olcott:

“ Without noticing the many unpleasant indications of the state of feeling at the Observatory, the Executive Committee (composed of nine of the Trustees), felt called upon to rebuke recent gross and deliberate insults offered by Dr. Gould, through his youthful subordinates to three of our Trustees. The Trustees had, in visiting the Observatory in the discharge of their duties, been refused admittance, the door closed in their faces, and otherwise treated with insolence, prevarication and falsehood.

“ This Board, I know, cannot be shaken in its abiding confidence in the truthfulness, honorable intentions and gentlemanly deportment of the Trustees referred to, by whomsoever they may be secretly lampooned or openly traduced.”

If we suppose, which is not correct, that gross and deliberate insults were offered by the young gentlemen to the Trustees, is Dr. Gould to be held responsible for this? The answer is, Yes, if he justifies it. But Mr. Olcott says: “ The committee felt called upon to rebuke recent gross and deliberate insults offered by Dr. Gould through his youthful subordinates!” To rebuke it before it was reported to Dr. Gould, before in fact he knew anything of the circumstances! Such hasty action is surely unbecoming, and so is this charge, to make which Mr. Olcott is obliged to ignore the order of time and the reasonable limits of official responsibility.

The insults offered by Dr. Gould are the insults alleged to have been offered by his “ youthful subordinates.” Who are these youthful subordinates thus rebuked by the Executive Committee and by Mr. Olcott? Four aids in the Coast Survey of the United States—remarkable for their attainments in science—for their industry, zeal and devotion to astronomical occupations,—young men who have received careful training in their families, and of high moral and religious princi-

ples, of gentlemanly deportment and amiable manners. We appeal to Mr. De Witt, one of the nine Trustees, if he does not personally know this to be true of the young gentleman who was said to be foremost in offering these insults? Their conduct and character, public and private, have hitherto been unimpeached. If they want years, that is a fault which time will be sure to mend. The law declares them to be men; but even were they as young as Mr. Olcott asserts, we have no sympathy with the sneers of the Executive Committee against youth. These sneers cannot be justified, even by the mature age of those from whom they come. The honor and reputation of these young men are as dear to them, to the Director, to the Scientific Council, to their parents, relatives and friends as that of any sexagenarian among us. We challenge the city of Albany to produce four young men more exemplary in their characters, or excellent in their attainments.

What was their position? Earning from the government by scientific labor a mere pittance, by labor continued through so many hours of the day that it has been adjudged throughout the world to be a day's full task, they nevertheless volunteered to assist Dr. Gould in his gratuitous and severe toil at the Dudley Observatory. Receiving no support from the Observatory, barely provided with a place to shelter themselves and essential by its proximity to the Observatory to the execution of work by night or by day, with no comforts or luxuries of furniture or appliances of domestic life provided at the cost of the Trustees, at least the independence of their position should have been acknowledged by the Board, and they should have been treated with

gentlemanly mildness and courtesy, perhaps even with some indications of sympathy and regard which might serve as a recognition of their noble zeal and disinterestedness. No rude remark, no criticism of the conduct of their friend Dr. Gould, no haughty assumption of contrast of position should have been used by the visiting Trustees. A smile rather than a rude rebuke should have followed any exhibition of irritation or hasty temper, consequent upon the generous impulses of youth in defence of their preceptor and friend. We have only the *ex parte* statements of the assistants themselves, except in one case, where the Trustee's own account of his conduct was such as to condemn him in the eyes of the friend to whom he related it. The Trustees seem to have forgotten that these young gentlemen were not their paid employees, and that the office of showman, although constantly and courteously discharged by them, formed no part of the duties which they had so generously and nobly volunteered to perform. The visiting Trustees had no right to accost them as they did, making demands upon them which should have been addressed to the Director, if to any one. Had the assistants been salaried as astronomers by the institution, their treatment by Messrs. Armsby, Wilder and Pruyn would have been indefensible, and the vote of the Trustees entirely inexcusable. We should have been glad had the Trustees enabled us to look at the other side, but they have declined to do this. We can therefore only say that, as far as we understand the case, the rudeness was on the part of the visiting Trustees, and not of the "juvenile subordinates," and that the conduct of the latter was remarkably discreet and exemplary. Dr. Arms-

by and Mr. Wilder should have gone into the Observatory with Dr. Gould when he offered to show them into it, and not have waited his absence to endeavor to effect an entrance. Dr. Armsby and Mr. Pruyn, instead of urging admittance at a time when Dr. Gould was not on the premises, should have taken care by a suitable notice to secure his presence when they called. Their communication with the assistants was an unseemly act of itself, and the demands made were still more unseemly. There is no evidence before us that the Trustees were "refused admittance," or "the doors closed in their faces;" and to the contrary we have positive testimony. That they were treated with "insolence, prevarication and falsehood" is untrue. Such charges against gentlemen of any age require the strongest proof, and, unless that proof is submitted, the accuser must meet the deserved reprobation. No such proof has been furnished by Mr. Olcott. Insolence, prevarication and falsehood are not in accordance with the character of these young men, and we pronounce the charge baseless. They are, we are sure, such young men as the citizens of Albany would be proud to have as friends and acquaintances for their sons, and as examples of a virtuous, studious, hard-working, youthful career. We appeal to the citizens not to let this high-handed oppression of youth pass without the most scathing rebuke.

14. *The Extraordinary Letter of May 31st.*—Mr. Olcott continues :

"The resolutions of the Committee relative to the insults offered to the Trustees, drew from Dr. Gould the extraordinary letter before referred to, of May 31st. In this letter Dr. Gould asks the Committee to rescind the resolutions, refuses to unite with the Trustees in preparing rules and regulations for admis-

sion to the Observatory, declines to instruct his young men to treat visitors with civility, and expresses surprise at resolutions so "improper and unjust," He even eulogizes as "*gentlemen*," as "*astronomers*," as patron saints of the Institution—"his young aspirants," not one of whom are probably out of their *teens*. *This letter affords sufficient justification for terminating his relations with this Institution*, unless arrogance, insolence and conceit are suited to the taste of gentlemen of this Board."

By this "extraordinary letter" of Dr. Gould he may well be content to be judged. It is a model of a plain, direct, manly, independent statement. Tyrants only object to such addresses. The angry President concludes that "*This letter affords sufficient justification for terminating his relations with this Institution*, unless arrogance, insolence and conceit are suited to the taste of gentlemen of this Board." The letter is at hand, fellow citizens; you have read it. If the Trustees have placed a right construction upon it, it has been erroneously construed by us.

We can see only a proper appeal to a committee who have passed resolutions injurious, in Dr. Gould's view, to the interests of the Observatory, and insulting to his assistants. If he had failed to ask a reconsideration from the Committee, he would have failed in his duty. The Committee had, unheard, condemned his associates, a foreshadowing of the action of the Board subsequently in his own case. He appeals mildly to the Committee, but their temper permits no such appeal to have effect. The President now insults, more grossly than before, these young men, "not one of whom are probably out of their teens," even inventing epithets for Dr. Gould to give point to his sneers against "the patron saints of

the institution," as he absurdly alleges they were called. Alas, what a spectacle of the injustice to which temper leads! No difference of age, no difference of position, is permitted to shield these excellent young men from the crushing sarcasm of the mature but angry President of the Board.

We will, if Mr. Olcott chooses, advise Dr. Gould to submit his case to any impartial tribunal, upon this letter, and to vacate his place without a struggle, if it is decided, as Mr. Olcott asserts, that "This letter affords sufficient justification for terminating his relations with this Institution." That the "arrogance and insolence and conceit" of this letter are not there, you, fellow-citizens, will readily see. The arrogance and conceit which induce a man of finance to undertake to pronounce an astronomer ignorant of his profession, show why and how far he is incompetent to judge of this letter. If we also consider his temper—the exhibition of which in this letter of charges, is in remarkable contrast with that shown by Dr. Gould in his letters—the case against Mr. Olcott becomes conclusive. If this letter was adequate cause for Dr. Gould's removal, why not remove him upon it? Why go to the length of trumping up a series of frivolous, absurd and malignant charges against him? It would have been meeting Dr. Gould in a manly spirit had Mr. Olcott preferred charges on this letter before the Council, and demanded upon this Dr. Gould's dismissal.

In what portion of this letter Mr. Olcott would find justification for terminating relations with Dr. Gould is inconceivable to us; and it is not wonderful that he did not attempt, by argument or resolution, to vindicate his

assertion to those of his associates whom he controls with such absolute sway. Is it to be found in the highly dignified and respectful array of argument, with which Dr. Gould meets the unguarded and intemperate resolutions of the Trustees, and without a harsh or improper word shows their absolute inconsistency with the scientific conduct of the Observatory? Was it that he did not understand his position, and submit with the cringing humility of a servant to the first intimation of his master?

The first resolution, which claims that the land of the Observatory, which was devoted by General Van Rensselaer to the service of astronomy, shall be daily opened as a place of popular amusement, and given up with unconstrained freedom to noisy sports, is absurd. To condemn Dr. Gould for his quiet and simple remonstrance to this absurd proposition, comes with an ill-grace from one who has, with extreme care, protected his own princely estate from the intrusion of the eye of a passing stranger. We sustain Dr. Gould's equally calm reply to the second resolution of the Trustees, which would deprive the Director of the exclusive power of admitting and rejecting unofficial visitors. The Trustees can bring no good authority in support of this claim, which is entirely incompatible with the administration of a well regulated institution; and even in the poor instance cited by Mr. Wilder, in which a public observatory seems to have been offered as a place of amusement, the offer came from the Director and not from a superior authority. But in this portion of Dr. Gould's letter the Council read the most convincing assurances of his desire to grant every possible facility for the gratification of a

laudable curiosity ; and so far is the letter, in this respect, from giving the foundation of a complaint against him, that, combined with our knowledge of his character, it is a warrant for the claim that the Observatory, under his direction, would be preëminently distinguished for the intellectual profit which it would freely give to its visitors.

To the third resolution, with its studied sneers, the reply of Dr. Gould was necessarily firm and decisive. The demand that "at any and all hours any of the Trustees should have free access" to the Observatory, "with or without friends,"—involving, perhaps, an equally free access to his private dwelling-house, in which the duplicate keys were to be deposited "for the sole and exclusive use of the Trustees," will probably be decided against them by the public, which is not yet ready to sustain such an inquisitorial and despotic resolution, and our chief wonder is that the Director could reply to it with such an undisturbed equanimity of temper. The final resolution in which the young men of the Observatory are spoken of as boys, and the Director is requested to address them in words which involve rebuke and censure, at least, if not insult, is declined by Dr. Gould with a gentlemanly dignity which we strongly approve, while we also sympathize with his honorable recognition of their services, and cordially unite in it.

In conclusion, we declare that this letter, which Mr. Olcott condemns, meets our hearty approbation and full concurrence.

15. *The Clocks and Chronographs.—Toys for juvenile companions and visitors.*

The Corning Clock.—The attempt to make Dr. Gould responsible for the non-arrival of the normal sidereal clock, is truly preposterous. He has written repeatedly to the maker, and the delay in its completion has borne more hardly upon the Director than upon any one else.

The Clock of Messrs. Blunt.—Mr. Olcott alleges that “the beautiful clock given by the Messrs. Blunt, of New-York, was not acceptable to Dr. Gould, but he expressed a wish that they would take it back and give something else in its place.” Will it be believed that this “unacceptable” present of the Messrs. Blunt is actually so much prized by Dr. Gould that he has used it in the stead of the Normal Clock? We have seen this noble time-piece filling this important place in the Dudley Observatory.

Electrical Clocks.—We come now to the consideration of the clocks constructed by direction of Dr. Gould, and pronounced by Mr. Olcott “useless only as toys for the entertainment of his juvenile companions, and of visitors.”

It is well known to those who have acquaintance with the history of Astronomy that the application of electricity to astronomical purposes, and especially to the recording of observations, is an American invention. It has been developed and applied extensively in connection with the Coast Survey operations under the late Sears C. Walker and Dr. Gould, and it was expected by astronomers that the Dudley Observatory would furnish the most perfect arrangements of this application yet devised.

It was therefore the earnest desire of Dr. Gould and of the Scientific Council that this part of the Observatory equipment should be of the most elaborate description, and furnish another forward step in the "American method." For this purpose Dr. Gould, after much thought, devised a system of clocks and dials to carry out the essential requisites of the plan. New combinations of clock-mechanism were required for this purpose; and with the assistance of Mr. Farmer, one of the most ingenious mechanics of our day, the desired result has been accomplished. The system consists of two classes of clocks, which are intended for quite different purposes. The one class belongs to the exclusive astronomical conduct of the Observatory, and the other is for the transmission of time-signals to distant places and their reception there. The regulator of the first is to be the normal sidereal clock, the means for purchasing which was provided by the liberality of Mr. Corning. It is true this clock has not yet been received; but all who are acquainted with the tardiness with which orders of this kind are filled might have attributed the delay to some more probable and certainly more charitable cause than the negligence of Dr. Gould. It is certainly strange that he should be censured for completing all the other arrangements, so that nothing should be wanting when the standard clock arrived, to put the system immediately in operation. Meanwhile through the kindness of his friends, the Messrs. Blunt, a clock has been lent the Observatory, temporarily to supply the place of the one not yet received. And this clock,—so far from being rejected by Dr. Gould, as Mr. Olcott's remarks would imply,—has been in constant, active ser-

vice since the work of the Observatory commenced. The standard clock is to be placed in the basement, imbedded in masonry, to obviate as far as possible the effects of changes of temperature, and protected by a case, by which the moisture is excluded and prevented from affecting the delicacy of the workmanship. But though unseen itself, it transmits by means of the electric current, tick by tick, its measurement of time to three dials, (not separate clocks as Mr. Olcott would lead his readers to suppose,) placed in the three principal observing rooms of the building. Dependent upon the sidereal time obtained by astronomical observation is the series of dials which indicate the mean, or ordinary solar, time of the Observatory. The pendulum for this purpose is itself sustained in motion by galvanic agency, and also regulates three dials in different parts of the establishment, beside the great marble Dial of the entrance hall, known as the Corning clock.

The other system, intended for communicating time-signals, consists of two parts, one designed for transmission of the signal and the other attached to the distant clock for its automatic adjustment at the moment when the signal is received.

A part of this machinery has been placed in one of the rooms in the dwelling-house for more easy observation of the working of the system, and the remainder is kept constantly in action, in order to make any corrections which experience may deem necessary. We must confess that we are somewhat surprised that Mr. Olcott should say these clocks are "useless only as toys for the entertainment of Dr. Gould's juvenile companions and of visitors," when it may be gathered from all his re-

marks that the most important object of the Observatory is, in his judgement to excite popular wonder.

It must be evident to the observant reader, from the whole tenor of Mr. Olcott's remarks, that the Executive Committee consider themselves fully equal to the task of conducting the astronomical work of the Observatory themselves; that, not content with the financial management of the establishment, they attempt to assume the direction of the astronomical operations; that Dr. Gould and the Scientific Council are merely a part of the machinery of the establishment, to be directed and operated upon in order to produce results corresponding with the peculiar notions of the Trustees. It is to be regretted that the Trustees were not more explicit in the beginning in regard to their views and intentions. The Scientific Council supposed that they were to have the sole direction of the scientific part of the establishment. They placed full reliance in the statements of Mr. Olcott and the other member of the Executive Committee, that they were aware they had no knowledge of astronomy, and that they desired to be entirely guided by the advice of the Council in astronomical matters. It would, however, now appear that these were mere rhetorical expressions, intended to exalt the importance of their knowledge by a show of modesty, and that the real object of the election of a Scientific Council was to parade them forth on special occasions, and like the supernumeraries of a mock theatrical procession, to give tinsel dignity to the pageant.

This might be compatible with the views of Mr. Olcott and his colleagues, but it was far from the conceptions of the members of the Scientific Council, and

neither their self-respect nor their ideas of the true advancement of science would have permitted them for a moment to lend their names to such a system of folly and absurdity. The Trustees ought to be aware of the fact that in attempting to establish a great institution, and in calling the attention of the whole civilized world to their efforts, they have involved the reputation of the Scientific Council, of the city of Albany, and of the whole United States. They should, farther, be aware that there is a graver consideration than that of simply rendering ridiculous all connected with the establishment; namely, the moral effect which will be sure to follow an abortive attempt of this kind, preventing future donations for founding scientific establishments in our country. It is not only that the generous gifts of Mrs. Dudley and the other liberal contributors will be worse than squandered should the present course be insisted on, but that all confidence in the ability of Boards of Trustees to manage affairs of this kind will be seriously impaired, if not destroyed.

16. *The Transit Instrument.*—We agree with Dr. Gould, that under the present circumstances of the Observatory it was not desirable to mount the large transit-instrument. The small one already mounted is adequate to give time for the regular operations of the institution, and for the other purposes for which it is now employed. To expose the first-named costly instrument to injury, by mounting it before it is to be used, is not expedient. The means, too, must obviously be taken from some other purpose, which, as Dr. Gould correctly stated in his letter to the Executive Committee, should take precedence of this. While the Observatory is not

only deficient in means, but has very few assistants for observing and computing, the addition of an instrument which is not indispensable is to be avoided. The suggestions of Dr. Gould were judicious, they tended to economy and efficacy, and the Executive Committee, it seems to us, were traveling out of their province, when they urged the mounting of this instrument. It may do for Mr. Olcott to adopt their views, but we cannot sanction the proceeding. The Committee should at least have advised with the Scientific Council, before deciding a scientific question against the Director.

17. *The Meridian Circle*—In this superb instrument there is embodied such a variety and combination of improvements that there is a full measure of reputation for all concerned in its production. The beauty and finish of its execution, and the consummate perfection of the design, in which all the suggestions are so admirably combined, attest at one view the masterly skill of the makers, Messrs. Pistor & Martins; but our present duty is to consider the especial merits of the Director of the Observatory in relation to its construction. There are a few instruments in the world of such excellence as always to have been called by the name of him who had the final responsibility of the plans for their construction. Such is Repsold's Heliometer, Airy's Altazimuth instrument, Hassler's Theodolite, and such is this Meridian Circle. Dr. Gould is in intimate correspondence with all the principal astronomers of the world, and we believe that no man can exhibit more unanimous proofs of the confidence of his brethren in science, or more richly deserves them. He has been a faithful student in the observatories of Göttingen, Berlin, Greenwich and Paris,

and is most familiar with those of Oxford, Cambridge, Altona, Bonn and Pulkowa, as well as a great number of observatories of less widely extended reputation. He frankly discussed the first plan of his Meridian Circle with the Directors of many observatories, and it is due to these distinguished men to say that their criticisms and suggestions were given with earnest and sympathizing cordiality; and here, as in all his intercourse with generous men, the respect and friendship which were at first manifested have never been withdrawn. It would be impossible to describe this great instrument in a few sentences, and the greater part of its remarkable improvements have been commemorated to the world by the letter of Encke. There are several of its improvements which have even escaped the notice of this distinguished astronomer, and which must be reserved for the scientific description of the instrument. It is sufficient to say in one word, that it stands without a rival, the noblest instrument of its class which has been constructed, and that we are indebted, before all others, to Dr. Gould for its conception. It is the offspring of his genius, and the degree of personal feeling must be intense which would sever the Director from this instrument without giving him the opportunity of establishing its reputation, and securing it from the obloquy behind which some unskillful observer might seek to hide his own incapacity. The circle is already mounted, so far as the transit element is involved, and no time has been lost in the execution of the delicate attendant operations. One of the greatest improvements in the construction of the instrument consisted in the imbedding of the microscope-tubes into the

single stones constituting the piers, by which the utmost solidity is secured to their position. The drilling, which is greatly augmented by this process, is required to be conducted with extreme precision. The happy idea of protecting the piers from rapid changes of temperature and dampness, by a clothing of non-conducting material included within an external wooden casing, has been here introduced for the first time, and these coverings require to be fully completed before the microscopes can receive their final mounting, and the instrument be ready for the work of adjustment.

18. *Microscopes*.—Another frivolous charge against Dr. Gould is that of sending off parts of the meridian circle without the consent of the President of the Board of Trustees. The misdemeanor, set forth in this charge, consists in putting into the hands of Mr. Spencer (to whom had been confided the making of the great Helio-meter) the microscopes intended to read the fine graduation on the limbs of the circle. Examination of these eight microscopes led Dr. Gould to believe that they required a slight modification, in order to obviate all danger of flexure. After consultation with Mr. Spencer, he states that he took the precaution (quite superfluous under any ordinary circumstances) of asking and obtaining authority from Mr. Olcott himself. The change was of a trifling character, consisting in the addition of a ring of brass, with two pegs and a spring. It might readily be removed at any time, and the idea, that it could possibly interfere with any claims of the Trustees against the makers, is ridiculous even did any ground for claims of any sort exist. It would be difficult to explain so frivolous a charge, except by attributing it to the promptings of prejudice and ill-feeling.

19. *Continued delay—Unfolding glories.*—Mr. Olcott would seem to think that the meridian instruments are intended for a less useful but more popular purpose than their real one; since he alludes to “the unfolding glories which they are expected to reveal.”

The preparations for mounting the meridian-circle have been a work of great labor and thought. The instrument, together with its microscopes, counterbalances, adjustments, &c., is supported by two stone piers, weighing somewhat more than seven tons each, cut away in various places and perforated with cylindrical holes, the position and direction of which require adjustment with almost mathematical precision. This labor cannot be compared with that attending the erection of any other meridian-circle, inasmuch as the peculiarities of construction of this one entail this peculiar care in mounting. The work of drilling and cutting the holes occupied the continued labor of from two to four men for seven weeks, and demanded constant superintendence and device. The necessary measurements and markings alone required long continued and close application. The stone piers again are covered with a tightly fitted clothing of a felt-like fabric woven especially for the purpose, and then provided with a casing of wood, saturated on each surface with a solution of shellac. The object of these coverings is to exclude the influence of temperature and moisture from the piers; and they are rendered important by the circumstance that the delicately adjusted microscopes are supported by the stone itself. Every precaution has been taken which the experience of the world suggested, to render the observations to be made with this splendid instrument as perfect as the present state of science will allow.

To accuse Dr. Gould of tardiness or delay in this work is to speak without knowledge, or to pervert truth. We will not assert that Mr. Olcott was actuated by the latter motive; but the confidence with which his incorrect assertions are uttered shows either an assumption of astronomical knowledge, or a recklessness of assertion, entirely incompatible with justice.

So far from being delayed or protracted, the work has been advanced quite as rapidly as could have been reasonably expected, had the whole time of Dr. Gould been available for this purpose alone. Even had his mind not been oppressed and harassed with care and anxiety the work of putting up this instrument would of itself have creditably represented the time employed. When it is remembered what a multitude of other occupations have weighed upon his mind, to distract his attention and absorb his time, our language regarding this unfounded accusation of delay will not be considered too severe.

Since meridian instruments like the circle and transit are altogether unfit for scrutinizing the physical peculiarities of celestial bodies, and are designed exclusively for measurements of position, the rhetorical flourish relative to "panting for the unfolding glories which they expected to reveal," is ludicrous.

20. *Incompetency*.— Another grave charge, seriously affecting the character of Dr. Gould, is that of incompetency. To render this charge more emphatical, it is printed in italics. "The truth," says Mr. Olcott, "in my judgement, lies in a nutshell. It is a discreet unwillingness to test his skill as a practical astronomer."

This charge does not affect Dr. Gould alone, but also the Scientific Council. It charges them either with recklessness, in placing without proper caution, a man at the head of the Observatory who was incapable of discharging its duties ; or, when knowing his infirmities, with sacrificing the interests of the Observatory to personal considerations. We emphatically disclaim both of these allegations ; and, though Mr. Olcott may, from his financial success in life, have good reason to place full reliance upon his judgement in money matters, we think he over-estimates its value when called to pronounce upon matters pertaining to astronomical science. However infallible his judgement may be in ordinary affairs, the confidence he reposes in it, as applied to this subject, may possibly be fallacious.

But who is this Dr. Gould, who has thus been pronounced incompetent ? Though self-respect might prevent him from answering this question himself, yet the Scientific Council when accused of a want of caution or honesty, on his account, may be permitted to answer it. Dr. Gould graduated at Cambridge, with high honors. He early resolved to devote himself to astronomy, and for this purpose passed four years in Europe. He devoted one year to study at Berlin, under Encke, one to research at Göttingen, under Gauss, and nearly two years more to labors at the Imperial or Royal observatories of England, France and Russia, under the superintendence of men like Airy, Arago, Struve, Hansen, Schumacher, &c., &c. In this way he was enabled to become acquainted with the peculiarities of each observatory and from the talents (and we may say genius) which he exhibited in the acquisition of the old and suggestion of

new knowledge, he gained general esteem, and the warm friendship (of which we have abundant proof) of the most distinguished astronomers of Europe. Returning to America, he was employed on the Coast Survey as successor to the illustrious Walker, in the practical determinations of longitudes by the telegraphic system; and we beg to place the positive results of his labors in this line against the judgement of Mr. Olcott, however, confidently expressed.

When, a few years ago, the Astronomical expedition under Lieut. Gilliss, had been fitted out by the U. S. government and sent to Chile, for the purpose of determining the distance of the sun from the earth—this being the great astronomical unit upon which all our measurements of the vast distances of space depend—nearly three years were devoted by the accomplished officer in charge and his assistants to obtaining a series of extended and minute observations. Upon the return of the expedition, the whole collection of observations, made in pursuance of the objects of the expedition, was placed by the Secretary of the Navy in the hands of Dr. Gould for reduction and the determination of the desired quantities. The manner in which this work was performed may be seen by the published results; and, even if it should be pronounced by Mr. Olcott an evidence of the author's unskillfulness, we think we shall be able to show, in opposition to this judgement, that it has met the general approbation of the scientific world. Dr. Gould has continuously sustained, at his own expense, for the last nine years, an *Astronomical Journal* of the first class. Through its columns the principal additions to astronomy which

have been made in our country during the period above mentioned, have been given to the world. It has become a standard of reference in the history of astronomy, which, on account of the connection of its editor with the Dudley Observatory, has served, with other circumstances, to render the name of this establishment familiar to every astronomer. We need not dwell further on the labors of Dr. Gould, but it will be sufficient to refer to the astronomical periodicals of the last dozen years for an answer to the question—"What has he done?" His labors in connection with the Observatory will be mentioned hereafter. In concluding this part of our statement, we cannot refrain from expressing our astonishment that Mr. Olcott should presume to pronounce a judgment in this case.

It is evident that the Trustees and the Scientific Council have views of the Observatory, incompatible with each other. The aims of the two are as different as the motives of those who seek mere notoriety are from the motives of those who seek true reputation. The great object of the former seems to be to make an impression upon the popular mind, by means of a display of imposing instruments and apparatus. The object of the Scientific Council is to render the institution a means of producing original additions to knowledge, which may command the approval of the scientific world and confer lasting honor upon the Observatory.

21. *The gratuity to the makers of the meridian circle.*
—The next charge is that of sending, without authority from the Board, \$300 as a gratuity to the makers of the meridian-circle. To show the basis of this, we quote

from the letter of Dr. Gould to these mechanics, Messrs. Pistor & Martins, of Berlin :

“I had hoped to announce to you before now that the meridian circle was set up and adjusted, and to inclose a few hundred dollars as the reasonable contribution of the Trustees of the Observatory to reimburse you for the unforeseen expenses incurred. * * * I feel myself bound in honor to protect you against loss from an instrument for which I contracted with you, as well as planned in some measure; and all the more, inasmuch as I believe it to be a most honorable and beautiful specimen of your skill. Will you, therefore, have the goodness to draw upon me for \$300 at ten days’ sight, which draft shall be duly honored.”

This letter needs no comment from us. It is in keeping with Dr. Gould’s character, and with his course since he has been connected with the Dudley Observatory. It certainly required ingenuity on the part of the President of the Board to make it assume even the semblance of an accusation against him. But this is not all Dr. Gould has laid before us his correspondence with Mr. Olcott upon this subject, and we have seen that it contains a full explanation of the matter,—the courteous and forbearing tone of Dr. Gould’s replies contrasting strongly with the offensive style of the letters from Mr. Olcott, to which they are in answer.

Accusations such as these, when properly stated, only declare the temper and spirit of the accuser, and result in doing honor to the accused.

22. *Gentleman from West*.—The story of the gentleman from the West, which is introduced by Mr. Olcott, has been traced, by the help of one of the Trustees, from its origin to its present form, and we declare that it grew out of a single misconception, exaggerated until

it took its present dimensions—reminding us of that trite history of exaggeration which each one will refer to at once for himself.

23. *Opposition to Professor Bache.*—*Letter to the "Albany Knickerbocker."*—In order to convict Dr. Gould of misstatements, Mr. Olcott actually undertakes to overlook the fact, which he has previously stated with some elaboration, that the arrangement, made with the Superintendent of the Coast Survey in 1855, was superseded in January by the contract which placed the Observatory under the charge of the Scientific Council. We assert that at that meeting Dr. Bache distinctly stated that he had received Mr. Olcott's proposition, as a member of the Scientific Council, and then and there proceeded to express a renewal of the acceptance in the same capacity. The Observatory was placed—as Mr. Olcott's letter to Professor Henry, already quoted, states—under the charge of Dr. Gould, *subject only to the Scientific Council*. The fact, that Dr. Gould and his assistants are officers of the Coast Survey, does not place the Institution in any way under the control of that work, whatever may be its legal right, growing out of the longitude operations still in progress.

24. *Peculation.*—It is difficult to convey our idea in regard to this charge, without using such strong language as we prefer not to employ. To say that it is untrue; that it has not a particle of foundation; that it is baseless; has not the shadow of reality or an excuse for it; would be feeble, compared with the convictions that we have of the character of the imputation. That a man who as Trustee was responsible for the funds of the donors, and charges himself, in order to charge Dr. Gould,

with "wasteful expenditures," should bring such an accusation, which is sure to recoil, strikes us as most extraordinary. There would be as much foundation for any other infamous charge as for this. This is not like the arraignment of being ignorant of practical astronomy, which the banker may prefer against the astronomer without feeling or knowing its enormity; it is brought by one who is accustomed to handle funds of his own and of other people, and who should be sensitive in regard to a charge of speculation.

This assertion, that Dr. Gould "individually pockets, in addition to his salary, the very considerable income from longitude determinations," we solemnly, after deliberate investigation, pronounce unsupported by a shadow of foundation. Mr. Olcott's insinuation, "this explains his past anxiety to grasp the legislative appropriation," is in perfect keeping with the rest of Mr. Olcott's charges, and we feel that it will but add to the indignation felt by every right-minded man who reads the attack.

The accounts paid by Dr. Gould, and for which he has exhibited to us the vouchers, are,—for materials, \$58.29; for pay-roll of persons, \$215.93; for traveling expenses, \$70.75; for subsistence of two assistants, \$124.00; for contingencies, batteries, messages, &c., \$65.55; for freight and cartage, \$64.47; putting up line of wire, \$43.75; for second pay-roll of persons to June 23, \$118.29; for subsistence of assistants, \$28.00; for stone foundations, \$49.94; for hardware, \$6.96; for lumber, \$64.51; for carpenter's work, \$18.50; making a total of \$928.94.

Assistant Dean, Sub-Assistant Goodfellow, and Artificer McDonnell, of the Coast Survey, were engaged in the operations, drawing their regular salaries from the Survey. Of the sum of \$928.94, disbursed by Dr. Gould, *only \$600 has been advanced by Mr. Olcott.*

So much for the charge of peculation! Will public justice permit such a charge to be made and not take cognizance of it?

25. *Letter to the German Journal.*—The matter of Dr. Gould's letter to the Astronomical Journal of Altona is a perfectly simple one. He and his assistants are bound to render certain services during office hours, fixed by the government at six hours per day. For this they receive their pay. This time is devoted to computations connected with the longitude observations of the Coast Survey. Beyond these office hours the government has no claim upon their time. They give their remaining time during the day, and their nights, to the Dudley Observatory. This honorable service, for which the thanks of the Council are here tendered to them, should be acknowledged with all praise. It is but scantily compensated by the advantage of the dwelling-rooms, derived from the Observatory, and fire, lights and furniture furnished by the Director from his private means. It is such service as is well compensated in the United States and abroad. We have had occasion to know positively that it is good service, faithful and zealous, intelligent, skillful service—honorable to the Director who could inspire the desire for it, and give the training needed; most honorable to these "young aspirants," whom it is easy to see will, at no distant day, be among the leading spirits of astronomical research in our

country. It shows no small power of winning good-will and preserving it, that these young men, thus working, should be devoted, as they are, to Dr. Gould,—sympathizing like brothers in his troubles and ready at all times to relieve, as far as is in their power, his cares and anxieties.

The idea of founding a charge of speculation upon this letter is one of the most extraordinary that a reasonable man can conceive. It goes to show how entirely unfit the Trustees were, in temper and feeling, to sit in judgment upon Dr. Gould; and it serves to explain the accusations of insolence, prevarication and falsehood preferred against the assistants of Dr. Gould. We must do these gentlemen the bare justice to say that we have met them officially and privately for some days, and that one of us has known them for some years, and that in every particular their conduct has commended them to our high respect and regard.

26. *Coöperation*.—Recurring to the idea of the national character of the Dudley Observatory, Mr. Olcott declares that the personal relations of Dr. Gould with Mitchell, with Maury, with the Bonds, and with Brünnow, are such as to preclude the hope of concert and coöperation with them. How utterly this is unwarranted by the facts is shown by the pages of the *Astronomical Journal*, edited by Dr. Gould, and which contains constant contributions from the Bonds, Maury and Brünnow! The number just passing through the press contains a leading article from the last-named astronomer.

27. *Selection of Station Point*.—That Cambridge was not selected as the point to connect with Albany, is attributed to the jealousy of Dr. Gould—a perversion

of a simple matter, which is almost too gross to notice. Suffice it to say that the two stations within the State of New York were recommended by the Scientific Council to the Regents of the University, under whose direction the appropriation made by the legislature of New York was planned, and received their sanction. The reasons which determined this choice are easily shown, and have reference simply to the scientific details of the problem.

28. *Prosperity of the Institution.*—When the Scientific Council came to Albany they found the scientific prosperity of the institution to be worthy of all commendation. If the same praise is not applicable to the financial affairs, the financial officers are accountable. If the President of the Board of Trustees has been unable to restrain the expenditures within the limits of judicious economy, then is he unworthy of the high reputation which he bears as an able financier. But, before he can claim to lay the charge of squandering the funds of the Dudley Observatory at any door but his own, he should make a full and clear exhibition of the state of the finances to his colleagues and to the public. He should be called upon to place all the books and accounts of the institution in the hands of a skillful and incorruptible accountant, whose true and responsible statement can be the only foundation for an accusation of pecuniary dishonor. We demand this investigation in justice to ourselves, who are involved in the insinuations against our colleague; we demand it in justice to Dr. Gould, as his necessary defence against the wicked accusations of wasteful expenditure and of peculation; we demand it in justice to the donors, who have trusted to our pledges in their giving, and whom this judgement

concerns, if there should be any development of violated trust. Who will assume the responsibility of obstructing such an investigation?

The donors assuredly have a right to know what has become of their money—how much of it has been spent, and for what purposes—how much has been invested, and in what—and how much remains. It was collected by the use of our names, and part of it on our personal solicitation to the contributors. Let these questions be answered by Mr. Olcott. We were accepted as a council by the donors and friends of the Observatory. We been appealed to by Mrs. Dudley to represent her donation, amounting to nearly \$80,000. We have been urged by donors, both here and out of Albany, to have this question tested. We call upon Mr. Olcott to answer these and other questions of account; and, if he will not answer us, we call upon him to present to his colleagues, the minority of the Board, such a statement.

29. *The Library*.—This collection of books, which already consists of more than a thousand volumes, is peculiarly rich in choice, rare books, difficult of ordinary access. It attests the skill, discretion and thoroughness with which the Director has discharged this secondary portion of his duty. Some account of the collection, which has been gathered by the unremitting assiduity of three years, from all the auctions and antiquarian book sales of Europe, may be found in the Proceedings of the Albany Institute.

30. *The Scheutz Calculating Machine*.—This marvel of art has been brought into successful operation. It is the embodiment of a life of ingenious contrivance, and has at last been proved to deserve the generous enco-

miums which it received from Mr. Babbage, the celebrated author of the analytic engine. It enables one whose capacity does not rise higher than the turning of a crank, to produce numerical computations with almost unerring precision, and present them imprinted upon a metallic plate ready for the stereotyper; and this is accomplished in the same time which a good computer would require for the computation itself. This first adoption of the substitution of mechanical for mental operations in the tedious task of computing, is a commencement of the Observatory of which it may well be proud, and which bids fair to inaugurate a new era in astronomical computation.

Dr. Gould has made himself thoroughly acquainted with the instrument, and has judiciously employed a skillful mechanician to make, under his direction, some changes which were suggested by the inventor, introducing also a simple and ingenious improvement suggested by himself. This assistant has also carefully arranged the whole instrument, and brought it into a working condition, an operation which occupied several weeks. It is now in perfect order, and its operations can be guided by a careful workman of ordinary education. The slight repairs which it will constantly need are estimated by the mechanical assistant at about \$28 a year, and he is also of opinion that, with proper care, it is not in danger of any accident which can more than quadruple this annual outlay. It is now and then liable, in its computation, to the introduction of an error. This defect seems to be irremediable, and to be radically associated with the exquisite refinement of the construction; but, whenever an error may occur, it is readily traced to its

origin, and the corresponding correction admits of easy application. There is also a small liability to error in the typographical portion of the instrument, but Dr. Gould has here suggested a remedy which will probably be successful. He has prepared the system of formulas by which the peculiar computations can be most readily effected for the immediate application of the machine. The numerical computations which these formulas involve require the aid of a scientific assistant, in the selection of whom he has been peculiarly fortunate; the regulation, adjustment and correction of the machine are finally to be committed to this assistant. We are happy to state that a set of tables of Mars has been undertaken, and that the most important of these tables, that of the true anomaly, has already been completed for each tenth of a day, so that we have before us the first full astronomical table which has ever been computed by a calculating machine.

31. *Conceit, Arrogance and Taunts.*—Charges of conceit, arrogance, and taunts against Dr. Gould may suit Mr. Olcott's purpose in rousing the Trustees to action, but cannot promote the cause of truth or justice, or aid them in the proper discharge of a sacred trust. This was a case, if ever, where men should take the highest views of their responsibility and the loftiest position in regard to self-denial. Men, who were not astronomers, were the Trustees of funds given to endow a great Observatory. The interests of astronomical science in the city of Albany, and State of New York, and, in a degree, in the whole United States, were confided to them. All personal feeling should have been set aside in the execution of their sacred trust. At the outset they showed

this becoming modesty, and no one more than Mr. Olcott, who now undertakes to judge Dr. Gould as a practical astronomer, and to decide some of the most difficult questions.

Writing in November last to a member of the Scientific Council, Mr. Olcott says :

“ I certainly was willing to coöperate with distinguished scientific men, and was proud to enlist as a subordinate under your banner. It might never have been revived from the tomb of its repose, but through your inspiration. * * * * I regard our success so far, as transcending our most sanguine hopes at the beginning. The services rendered by Prof. Henry and yourself in New York, enabled us to gain a footing there, and your identification with the enterprise has given it a passport to the confidence and regards of the nation.”

Noble sentiments — worthily expressed — contrasting as light and darkness, with the actions and words of the past week.

Writing in January to another member of the Council, Mr. Olcott says :

“ All you have done and are doing is for American science, and we are disposed to be governed altogether by our Scientific Council. We have unbounded confidence in them in everything, and we wish them to consider us as an humble instrument in their hands in carrying forward this great enterprise. We have not a personal wish, object or interest in this matter. We are willing to sink or swim, with a Henry, a Peirce, a Bache and a Gould, as the only chance of immortalizing ourselves in this world.”

Sink or swim, with a Henry, a Peirce, a Bache and a Gould !

Now, so much has temper altered the tone of his mind,

he says of one of these men: "The truth, in my judgement, lies in a nutshell. It is a discreet unwillingness to test his skill as a practical astronomer." In Mr. Olcott's judgement! Just at a time when kindness, forbearance and strict regard to justice were required, the temper of the Board is inflamed by such appeals as this, so that they sit in star-chamber judgement upon Dr. Gould.

32. *Work done*.—The difference of longitude of the Observatory from New-York has been determined, using the Coast Survey stations for the purpose. An elaborate and valuable series of photometric observations of stars has been made. This is one of those instances of happy adaptation of ends to means that mark talent among practical men. Dr. Gould selected at once a class of observations adapted to the deficient means of the Observatory, and by training his excellent young observers, and employing the naked eye, the "opera-glasses" sneered at by Mr. Olcott, and the comet-seeker, he has obtained at once standard results, making over one thousand observations of magnitudes since March 10, of which two hundred and eleven are upon variable stars, and forty-four upon stars suspected to be variable. These observations for magnitude have involved the charting, and subsequent verification by comparison with the heavens, of a zone 60° in breadth, and have led to the detection of thirteen stars of which the magnitudes differ from those given by Argelander in his catalogue. This distinguished astronomer has of late devoted his great abilities with especial energy to this class of researches, to the importance of which he was one of the first to urge attention. When a star is now found to differ from Argelander's assignment of magnitude its variability is justly suspected.

The numerical results of the observations by the different assistants of Dr. Gould show an extreme precision, the result of their capacity and of his excellent training. This work was admirably chosen—not only on account of the valuable additions which it affords to practical and physical astronomy, but also as a valuable means for training his assistants—to whom it has given a thorough knowledge of the actual configurations of three-quarters of all the stars in the Northern Hemisphere, visible to the unassisted eye. It has, at the same time, afforded them the best preliminary education of the perceptive faculties, accustoming them to that delicate discrimination of minute differences, which is at once so important and so rare in the astronomical observer. And while the results attained are of high value, both as regards their systematic bearing and their degree of precision, their attainment has collaterally fulfilled the important purpose of preparing the observers for still greater future usefulness.

By means of these determinations, the working list for the proposed catalogue of fixed stars down to the 6th magnitude inclusive,—the work proposed for the meridian circle,—has been very nearly completed.

The study of variable stars exhibits one of the most interesting fields in stellar astronomy, and one to which the attention of scientists has only within a few years been specially directed. At least two first-class European observatories are devoting peculiar attention to this subject, to which Dr. Gould has devoted special care.

And here we will again pay our tribute to that “superlative precision” at which Mr. Olcott has so offensively

and indiscreetly aimed his sarcasm, and which is brilliantly manifested in the photometric observations which have been made under Dr. Gould's direction and supervision. The agreement between the observations of the several assistants is most satisfactory and indeed surprising. Besides these observations, which are sufficient to stamp with approval the "unfolding glories" of the Observatory, the transits of stars have been regularly observed for time, and carefully and systematically reduced since the middle of April; all the occultations have been observed which have been visible with the comet-seeker, and new discoveries of celestial bodies verified. In the exchanges of telegraphic signals for longitude, 210 sets of observations have been made for instrumental corrections, 23 for personal equation, 189 for longitude, 169 exchanged with New-York, and 47 for thread-intervals. The latter branch of the subject is still in progress.

Besides these astronomical results, the magnetic intensity, dip and declination have been carefully observed, giving the magnetic constants for the Observatory. In these and the longitude observations, assistance was had from the longitude field parties of the Coast Survey. We pronounce this a remarkable amount of work for the time and number of persons employed; and when the unusually bad weather of this spring is considered, so that this is actually the work of forty observing nights, great credit should be conceded to Dr. Gould and his assistants. The conception of the observations was good, and they have been well executed.

The mounting of the Scheutz calculating machine, and of the meridian-circle, has already been spoken of, and the arrangements of the clocks and chronographs.

We have only to express our great gratification at the character of the whole results, which shows what might be expected from Dr. Gould and his assistants, if undisturbed by annoying and untimely visits, controversies and persecutions.

33. *Conclusion.*—It is tedious to follow through its turnings and windings such an unmethodical and illogical statement as that which passes under the name of Mr. Olcott. We have felt that, having plunged himself into this matter, he was determined to crush Dr. Gould by the extraordinary number, as well as by the unmethodical chaos and vagueness of his charges. If pains were taken to examine and refute all these labored statements, the public, he hoped, would not read the reply. If only the main charges were dwelt upon, he would cry, "See there, I charged thus and so, and no notice is taken of this charge." This presents the real and only point of great difficulty; for the evidence by which these charges may be tried is mainly documentary. It is derived chiefly from the correspondence of Mr. Olcott and Dr. Armsby with Dr. Gould and the members of the Scientific Council, at different periods since 1855; and especially since January, 1858, when the new compact was made between the Trustees and Scientific Council. This voluminous correspondence is not published at present, for the reason that it has a most important bearing upon certain legal questions to be determined hereafter. Copies of our letters and of the replies to them have been carefully preserved. The indications of looseness and inaccuracy in the extracts from the records which have come to our notice seem to indicate less care on the part of the Pre-

sident and Secretary. We urge with all earnestness that our fellow citizens will look carefully into our examination, passing along the by-paths through which we have been obliged to follow Mr. Olcott, and not discouraged by the windings and obstacles of the way.

They will find our discussions and results to be the following:

1. We give a narration of the ostensible reasons assigned by Mr. Olcott and the Trustees voting with him for their late astonishing procedure against Dr. Gould, and show the earnest attempt made by us to obtain information from the Trustees, from Mr. Olcott, and from Dr. Gould; and the refusal of the Board and of Mr. Olcott to supply us this information or to communicate with us, unless we would, as a preliminary, consent to prejudice the case by consenting to Dr. Gould's removal; the denial of justice to Dr. Gould by not allowing him a hearing before the Board or an examination by the Council; the publication and wide dissemination of unfounded charges against him by the President of the Board, with the sanction of a majority of its members; our proceeding to the investigation by means both of our letters and those of Mr. Olcott and Dr. Armsby, and by such other sources of information as were open to us. In the course of this investigation we have become convinced, that the ignorance of Mr. Olcott of what an Observatory should be is flagrant, and that we were deceived by his high-sounding words as to his wishes to make what we understood by a "National Observatory," a "first class Observatory," one which should be equal to or surpass other institutions of the kind in our country, and the like; that the Trustees have not the knowledge to manage the scientific part of such an institution, and have not even judiciously managed its funds or provided for their safe and satisfactory disbursement; that the majority of the Board has shown a great want of proper temper and disregard of the rights of others, as well as a want of care of the funds of the Observatory.

2. To diminish the labor of those who will, in their love of justice, follow us through the investigations of these charges, we have taken out a number of petty ones, showing their inaccuracy under the head of "Loose Statements." Mr. Olcott's disregard of precision in assertion is as remarkable as his condemnation of this quality in Dr. Gould, as applied to his science, is severe. These charges we should dispose of as frivolous.

3. The attack on Dr. Gould for his precision and exactness is next shown in its true light, as proving ignorance or something worse. The gravely-made charge in regard to the Lockport stone, used to excite an unfounded prejudice against Dr. Gould, is disposed of by a summary statement of the facts.

4. The charges of injudicious recommendations in regard to the Observatory are examined under the titles of "The Ingenious Crane," "The Dome," "The Wings of the Building," "The Chronograph and Clocks," "The Dwelling-house," "The ready concurrence in Dr. Gould's schemes," following, almost precisely, the confused statements of Mr. Olcott, and finding that each and every charge is unfounded, and derives its only substance from the ignorance or ill-will of the accuser.

5. Next is a full explanation of the cause of Dr. Gould's delay in coming to Albany, which is made a matter of charge by Mr. Olcott, though he well knew that the promised endowment, under which the Scientific Council consented to advise him to come, had never been made, and could not be procured within any moderate time; though he also knew that Dr. Gould's visit to Europe on business of the Observatory had necessarily caused a large accumulation of back work, pertaining to the Coast Survey and to the Chilian expedition.

6. The unfounded charge against Dr. Gould of applying for "another and rival position" is disposed of from our knowledge of the facts, which are given as briefly as we could state them. Even his great talents and knowledge, which suggested to ourselves individually, and without communication

with one another, his name as preëminent for a high post in another institution, are made, by ingenious sophistry, to appear to his discredit.

7. A brief history of the connection of Dr. Peters with Dr. Gould and the Observatory is given, under the title which Mr. Olcott gives to it of "The Sacrifice of Dr. Peters." This is a subject which we touch upon with reluctance, but upon which the statements of Mr. Olcott, as far as they constitute charges against Dr. Gould, imperatively demand our notice, and receive, accordingly, their refutation.

8. The subject of wasteful expenditures of the funds, alleged by Mr. Olcott, is examined and proved to contain no valid charge against Dr. Gould, however it may implicate the Trustees. Upon this point we suggest that a legal or a legislative examination should be called for by the donors.

9. The charge of avowed and open hostility to the Trustees by Dr. Gould is met and disproved.

10. For the garbled statement of Mr. Olcott in regard to the meeting of the Scientific Council with the Trustees in January, 1858, at which the compact, now violated by the Trustees, was ratified by them, is substituted a plain statement of the relations of the Trustees, Director and Council. Certain errors are pointed out, which Mr. Olcott enforces more than once, in the course of his paper, in the form of a charge of falsehood against Dr. Gould in regard to the relations of the U. S. Coast Survey with the Dudley Observatory.

It should not be forgotten that the Council was not merely the creature of the Trustees, but was sanctioned "at a meeting of the friends of the Observatory," and that large donations were secured through the use of their names. That, in fact, the institution was dead when the Council agreed to supervise it, and that it was revived by the pledge of their scientific reputations that it should be made a "national," a "first-class" Observatory. In this appointment the Executive Committee acquiesced, and it was in January too late to alter the relations of the Council and Trustees, which had been acted upon by the Council and acquiesced in by the Trustees for more than two years.

11. In examining, under the head of "Money Matters," the recommendations of Dr. Gould for expenditures for the Observatory, we find much to praise and nothing to censure; but the petty annoyances of the Executive Committee by delays, by non-assent to his recommendations, by the carelessness, or something worse, of the Secretary in his communications, &c., are brought out fully. The fact that Dr. Gould has been obliged to furnish the dwelling-house at the Observatory at his own cost and pay many contingent expenses, amounting to some three thousand dollars, clearly appears. A system of annoyance seems to have been resorted to for worrying him into a resignation. The facts are stated, in our defence, in detail.

12. The alleged payment of unauthorized demands is disposed of. The payments were made by Dr. Gould from his own resources, and he has never asked that they be refunded.

13. The very grave charge of "gross and deliberate insults" to the Trustees receives a full examination, and a counter charge of unseemly and injudicious meddling on the part of the Trustees is preferred. These result from the consideration of the correspondence of Dr. Gould with the Trustees and their President and Secretary. Such a system of petty annoyance has, we venture to say, been seldom inflicted upon the Director of a scientific establishment.

The fact is, that there appears to have been a systematic persecution in small and mean ways; such as not replying promptly to letters, and thus delaying the work of the Observatory—for example, the not answering, until March, letters written in January, &c.; the non-communication by the Secretary of the acts of the Executive Committee of nine, of whom all but one were opposed to the Director, not even a fair representation of the minority of the Board being allowed a place upon it; appointing upon a sub-committee of four the three members most prominent for bitter denunciations of Dr. Gould, and making the signature of two of these four requisite to give validity to any account; interfering with

the details of arrangement of the house and grounds ; denying the means to procure furniture, &c., for the former ; not furnishing the funds impliedly promised ; passing votes relative to the Observatory, without consulting the Director ; visiting the Observatory at times when the Director's absence was known, and endeavoring to pick quarrels with the assistants ; giving to the assistants their views as to the arrangements which the Director ought to make ; not acting upon the Director's recommendations as to the mounting of the instruments, &c., &c.

The Council repel, with indignation, the attack of Mr. Olcott upon the young associates of Dr. Gould in the Observatory. The charges recoil upon Mr. Olcott himself. The assistants are most intelligent and exemplary young men, and should be sustained against the sneers and charges of Mr. Olcott, by the citizens of Albany, young and old. They have been serving most generously and zealously, without compensation, for the love of their science, and should not be permitted to be exposed to wanton insult. They were arraigned by the Executive Committee and condemned unheard, as Dr. Gould himself was afterwards arraigned and condemned unheard by the Trustees. The sneers of Mr. Olcott at them as "not probably out of their teens," as "patron saints of the institution," &c., are, under the circumstances, not only absurd, but outrageous.

14. Dr. Gould's letter of May 31st to the Executive Committee, which, according to Mr. Olcott, "affords sufficient justification for terminating Dr. Gould's relations with the institution," from its "arrogance, insolence and conceit," is fully vindicated from the charges of Mr. Olcott. An offer is made to submit a case to any impartial tribunal upon this letter, and that Dr. Gould shall withdraw if this letter contains what is charged by Mr. Olcott. The charges of arrogance and conceit are shown to lie at Mr. Olcott's door. This letter is a sample of many straightforward appeals to the Executive Committee of the Board, and none but men whose tempers were so inflamed as to excite them to tyrannical acts, could fail to see

this. This is one of the most wicked attacks upon Dr. Gould in the course of Mr. Olcott's paper, and the letter itself is in print to refute it.

15. The admirable character of the clocks and chronographs, and the testimony which they bear to Dr. Gould's ingenuity and neatness of arrangement, is pointed out in refutation of Mr. Olcott's sneer, that they are "useless only as toys for the entertainment of his juvenile companions and of vistsors."

16. The falseness of the statements in regard to the large transit-instrument is shown.

17. The beautiful arrangements of the meridian-circle, which reflect so much credit upon Dr. Gould, are briefly pointed out. The progress made in mounting it and preparing it for use is stated. This instrument is preëminently the product of Dr. Gould's genius, and it is cruel that it should be wrested from his use. It stands without a rival in the excellence of its arrangements.

18. The absurd intermeddling of Mr. Olcott, in demanding an account from Dr. Gould as to his sending the microscopes of the meridian-circle to Mr. Spencer for slight modification, is put in what we conceive to be its proper light. It is another sad evidence of the incompatibility of his suspicious and irritable temper with his position.

19. The accusation of continued delay, of keeping the instruments in their boxes, with the absurd remark about "unfolding glories" are considered and refuted.

20. The preposterous charge of incompetency, preferred by Mr. Olcott against Dr. Gould, is next examined, and we decide in opposition to Mr. Olcott. We give unreservedly, as in duty bound, our opinion of Dr. Gould as a man of science, and relate how he was trained for his work and how he has done it. We show what are his claims to the respect of scientific men, and show that he has obtained it.

21. In regard to the unauthorized gratuity of \$300 to Messrs. Pistor & Martins, for the meridian-circle, we find that it was made by Dr. Gould from his private resources—in justice to those distinguished artisans, who had encountered unforeseen

expenses. The Trustees should have done this act of justice themselves, and not have thrown the cost of it upon Dr. Gould ; yet Mr. Olcott now endeavors to make this act of generosity the basis of a charge against him. Dr. Gould has never asked the refunding of the amount.

22. The frivolous story of the "gentleman from the West" is briefly disposed of.

23. The Scientific Council, from personal knowledge of the proceedings of the meeting of the Trustees, at which they were present, in January 1858, dispose of the attempt of Mr. Olcott to show that the statement of Dr. Gould is in conflict with that of the Superintendent of the Coast Survey as to the relations of the Dudley Observatory to the Survey. The charge is fully disproved.

24. The very grave charge of speculation, preferred by Mr. Olcott against Dr. Gould, is found not to have the beginning of a foundation, and the items of the account for telegraphic longitudes are given. This charge cannot be characterized by its proper name without using stronger language than we wish to employ. We nail it to the counter as false.

25. The matter of the letter to the *Astronomical Journal*, of Altona, is shown to be a perfectly simple one, and to have in it not the first element of a charge against Dr. Gould.

26. We give the reasons disproving the charge that prominent astronomers cannot coöperate in matters of science with Dr. Gould.

27. We show that the selection of the station-point in New York, to be connected with the longitude station at the Dudley Observatory, was made by others, who were officially responsible for the selection ; and therefore that the charge against Dr. Gould of improper motives in making the selection is untrue.

28. Having investigated the scientific concerns of the institution, under Dr. Gould's directorship, and found them highly commendable, and that an extraordinary progress has been made, considering the time and other circumstances, we ask an equally searching examination into the pecuniary affairs which

have been under the charge of Mr. Olcott, that each one may be judged in his own line. We ask that Mr. Olcott be required to render an account of his stewardship.

29. We show that the character of the library redounds greatly to the credit of Dr. Gould, and not to his disparagement.

30. We show that the mounting and use of the calculating engine, which has been already employed on astronomical work, is highly creditable to Dr. Gould.

31. We are obliged again to notice the charge of Mr. Olcott against Dr. Gould, of "conceit, arrogance and taunts." We give extracts from Mr. Olcott's letters, showing his well expressed modesty in former times; and, contrasting it with his present conceit, we infer that his temper has deprived him of his judgement on these points.

32. We examine the observations already made, and give high approval to Dr. Gould and his assistants for the zeal and ability with which they have been executed. They consist of more than one thousand observations of the magnitudes of stars, using Argelander's catalogue as a standard; of observations for time, for longitude, and others. The magnetic constants have also been determined.

We have summed up our conclusions in the following preambles and resolutions, which, having been communicated to the Trustees, were answered by our dismissal.

Whereas, The Scientific Council have received the resolution of the Trustees demanding the removal of the Director; *whereas*, they find that Dr. Gould has been condemned without being heard in his own defence; *whereas*, the Trustees have resisted all the attempts of the Scientific Council to obtain for Dr. Gould the opportunity of meeting the charges which have been made against him; *whereas*, these charges

appear to be mostly frivolous, with the exception of the two charges of incompetence and peculation; therefore,

Resolved, That the Scientific Council must advise the Trustees that their persistence in their present course of removing the Director is opposed to all the recognized principles of justice, and is utterly at variance with the system of guardianship by which the laws of our country protect the rights of our citizens against every form of despotism; that it will be regarded as a bitter and burning disgrace by the whole community, and will not fail to obstruct all further contributions for the support of the Observatory.

Whereas, The Scientific Council have carefully examined the statement which has been transmitted to them by the Secretary of the Board of Trustees, accompanying the resolution for his removal; whereas, this is the evident basis upon which such removal is required; whereas, they do not find in this statement any reasonable foundation for the serious charges which have been made against the Director; and, whereas, they have examined the voluminous documentary evidence which Dr. Gould has transmitted to them in his defence, and they find in this evidence the triumphant refutation of all the charges which are made against him; therefore,

Resolved, That they must advise the Trustees that the removal of Dr. Gould would be a gross violation of their obligations to him.

Whereas, This Council have carefully examined the scientific progress of the Observatory, and find it in all respects to be ably and judiciously conducted;

whereas, they find that the labors of the Director and his assistants have been characterized by the utmost zeal and energy ; whereas, they find that no opportunity for astronomical observation has been permitted to pass unimproved ; whereas, they find in the character of the work which has been already done, and in the unrivaled meridian-circle which has been constructed under his direction, the most indubitable proofs of the greatness of his capacity for astronomical investigation ; therefore,

Resolved, That they must advise the Trustees that the removal of Dr. Gould will be an irreparable injury to the scientific operations of the Observatory.

Whereas, The Council are persuaded that under the circumstances of Dr. Gould's removal no honorable and trustworthy astronomer would be willing to occupy his place, and take unrighteous possession of the splendid instrument into which the suggestions of his genius have been incorporated by its celebrated makers ; therefore,

Resolved, That they cannot by advice or in any other way acquiesce in his removal.

JOSEPH HENRY,
A. D. BACHE,
BENJAMIN PEIRCE.

Scientific Council of Dudley Observatory.

DUDLEY OBSERVATORY, *July*, 1858.



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